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Introduction to Windows XP

1.1 INTRODUCTION

The windows operating system started with the introduction of Windows OS and Windows for work group for networking. Since then it has come a long way and Windows 95, 98 and 2000 family of operating systems were introduced. It provided the computer user with the most integrated and easy to use operating system with all the facilities in built. The Windows XP is the newborn baby in the Windows family. It is build on the windows 2000 concept and framework. It has more features to provide the user with greater stability, security and enhanced performance.

1.2 OBJECTIVES

After going through this lesson, you would be able to:

- explain the basics of operating system
 - describe XP desktop elements
 - create file or folder in XP
 - change system settings
 - work on windows explorer
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1.3 ELEMENTS OF WINDOWS XP

One of the most significant areas of improvement in Windows XP over Windows 2000 is management and administration of desktop. Features such as system restore and remote assistance definitely reduce the cost of windows administrative cost, by eliminating the need for desktop support visits and manual restoration of the system. It also provides a series new group policy level to provide higher stability and manageability as compared to Windows 2000.

1.3.1 Logging On

When the computer system loaded with Windows XP is started, it will present a log-in screen to log on to windows or to network, if the system is part of a computer network.

To be able to log on, do the following:

1. Enter the password the system (if it is password protected)
2. click on the → key or hit the Enter key



Fig. 1.1

1.3.2 XP Desktop Elements

Task Bar

When you start the computer system, then start and task bar

appears on the bottom of the screen and by default remains visible when Windows is running.

Whenever a program is run or a window is opened, an icon representing the program appears on the taskbar. To switch between windows or program, click on the icon representing the window on the task bar. When the program or window is closed, the icon disappears from the task bar.

Fig. 1.2

Start Menu

When clicked on the start button, menu as follows appears on the screen giving all the available options to start using the Windows.

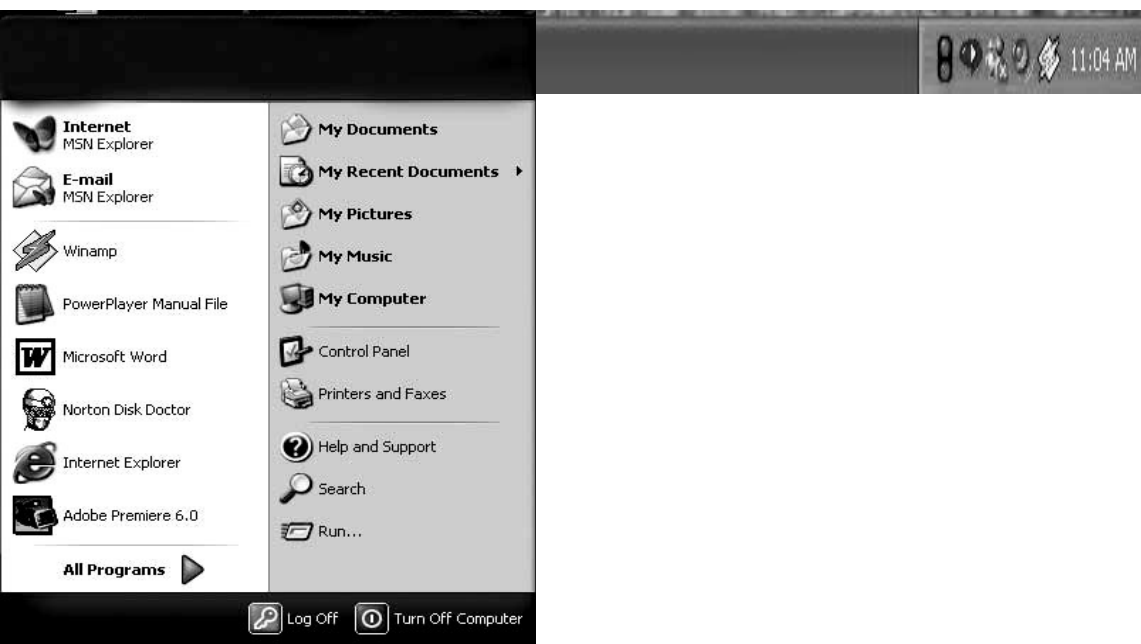


Fig 1.3

Over view of all options:

Task	Description
All Programs	Displays a list of installed program, which a user can start or use
My Documents	Displays a list of document used by the current user
My Recent Documents	Displays a list of recently used document by the current user
My Picture	Displays a list of picture/photos used by the current user
My Music	Displays a list of music/songs used by the current user
Control Panel	Displays a list of utility configure the computer system and install software and hardware
Printers and Faxes	Displays a list of currently installed printers and faxes in the current computer system
Help and Support	Start the XP help and support program to find how to do a task in windows
Search	Helps the user to find Displays a list of document used by the current user files, folder, and other networked computer and shared resources.
Run	Start a application program or execute a DOS command
Log Off	Log off the currently logged in user of the system
Turn Off Computer	Close currently opened program, log of the current user and switch off the computer system.

Start a Program

To start a program to the followings;

1. Click on the **Start** Button
-

2. Click on the **All Programs**
3. Point to the desired folder say “**Accessories**” and select the desired program to run such as ‘**Paint**’

Quitting a Program

To quit a program, select the close button (✕) in the upper-right corner of the window OR

Click on **File** menu and select ‘**Close**’ option.

Getting Help

Online help and support provided is of great help in using and learning windows. One can get help a specific topic or current task is being executed. To start help

- click on the Start button
- click on ‘Help and Tutorial’ option

A list of help and support topics and online tutorial is displayed on the screen. One can use the tabs in the screen to search for

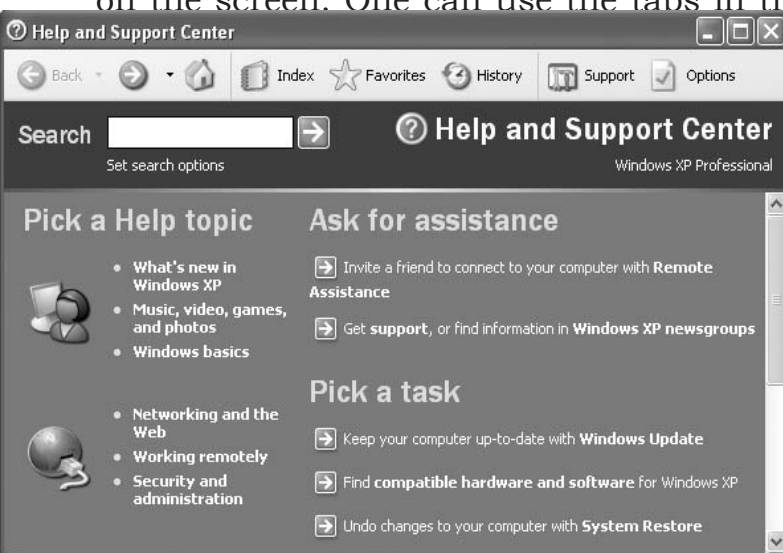


Fig. 1.4

- Click on a topic or task to know more about how to get the job done or type in a search word to locate the help on a specific topic.

- Click on the 'Index' tab to locate specific topic listed alphabetically and the follow the instructions displayed on the screen.
- Click on 'Favourites' tab to add Help Topics, search results to your Favourites list to make them easy to locate in the future
- Click on 'History' to pick from a list of Help and Support pages that you have read in the past.
- Click on 'Support' to get various kind of online supports such as Microsoft online support, News Group on Windows.
- Click on 'Option' to configure the help and support center as per your requirement.

To close Help and Support windows, select the close button (×) in the upper-right corner of the window.

1.3.3 Locating Files and Folders

If you do not know where a document or folder is located, you can use the Search option to locate it in the local storage such as Hard Disk, Floppy, and CD or in the network drive (if the system is part of a network). The Indexing Service provided by the Search maintains an index of all the files on your computer, making searches faster.

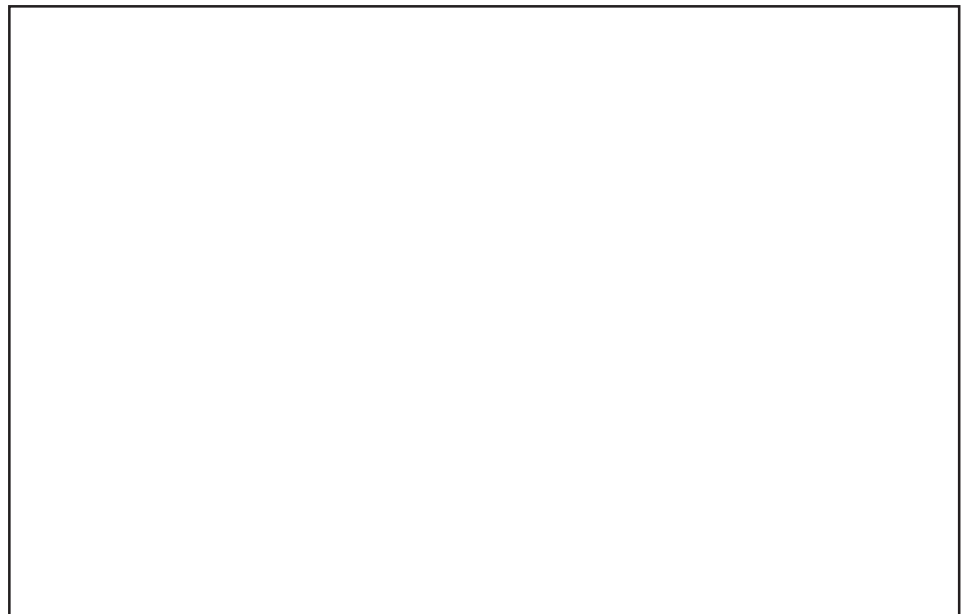


Fig. 1.5

To search for a file or folder

1. Click **Start**, and click on **Search**.
2. Select **All files and folders** from the left-hand side of the windows.
3. Type the name of the file or folder in part or full or type a word or phrase that exists in the file to be searched.
4. If you do not know either piece of information select one or more of the remaining options:
 - In **Look in**, click the drive, folder, or network you want to search.
 - Click on **When was it modified?** to look for files that were created or modified on or between specific dates.
 - To look for files of a specific size, click on **what size is it?** Select a size.
 - Click on **More advanced options** to specify additional search criteria.
5. Once you finish specifying the search criteria, click on **Search to** locate the file.

Similarly you can search for specific information on Internet, or people in your address book, search for a printer or a computer on your network.

1.3.4 Changing System settings

By using Control Panel's tools you can customize the way Windows look and work! Also you can install new hardware, add and remove (install/uninstall) software programs, change the look and feel of your desktop and much more. It also includes a number of administrative tools in Administrative Tools option for better administration of Windows in terms of User Management, Event viewer, Component Service etc.

To start Control Panel and use the available tool, do the following;

- Click on 'Start'
-

- Click on 'Control Panel'
- Select the desired tool to use

For example to create a new or modify the settings for an existing user click on 'User Account' icon in the control panel.

1.3.5 Using My Computer

My Computer displays the contents of floppy, hard disk, CD-ROM, and network drives. One can also search for and open files and folders, and use options in Control Panel to modify computer's settings.

- To use My Computer, click on **Start**, and then click on **My Computer**.



Fig. 1.6

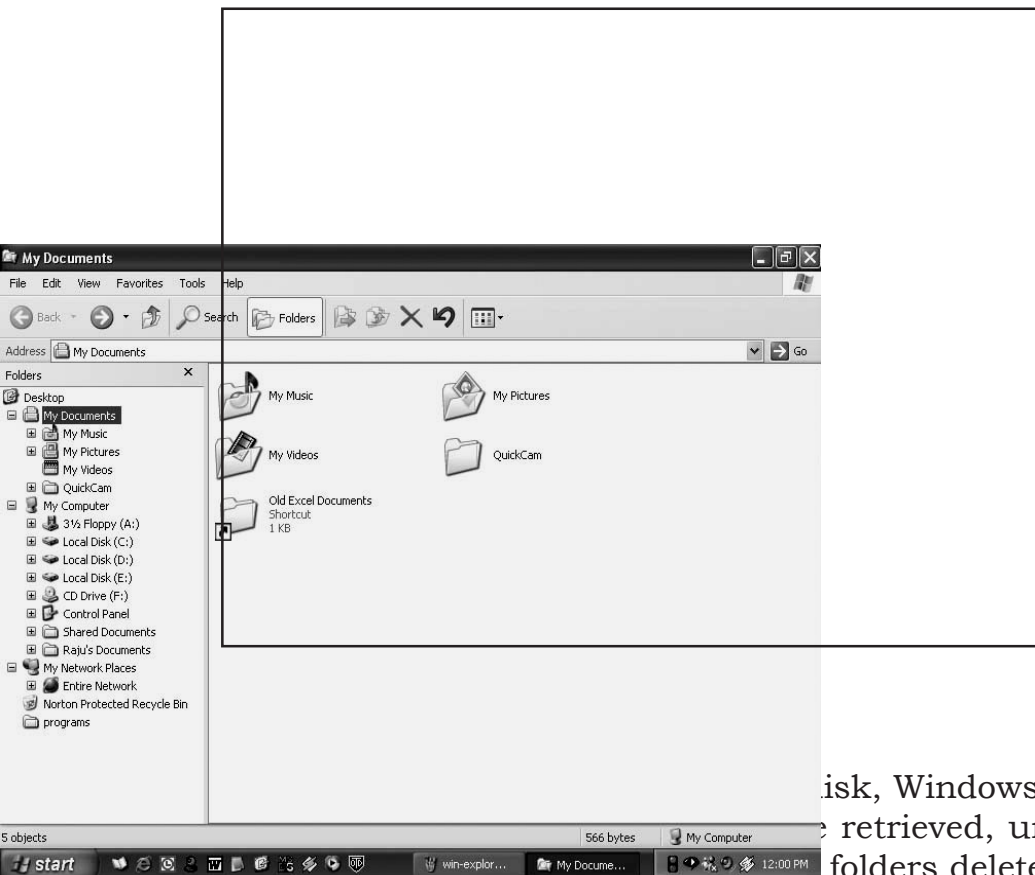
Display the storage Contents

- To see what is on your hard disk, under **Hard Disk Drives**, double-click the drive you want to see such as C:, D: etc.
 - To find a file or folder on a floppy disk, CD-ROM, or other media, under **Devices with Removable Storage**, double-click on the respective storage media you want to see.
-

- To find a file in a folder, under **Files Stored on This Computer**, double-click a folder.

1.4 FILE MANAGEMENT IN WINDOWS

File management in windows can be done through Windows explorer or My Computer. Windows Explorer displays the hierarchical list of files, folders, and storage drives (both fixed and removable) on your computer. It also lists any network drives that have been mapped to as a drive letters on your computer. Windows Explorer can be used to copy, move, rename, and search for files and folders. For example, to copy a file, you can open a folder that contains the desired file to be copied or moved, and then just drag and drop the file to target folder or drive.



On disk, Windows places files in a way that makes them easy to retrieve, until the files are deleted from the disk. Files deleted from a removable storage media such as floppy disk or a network drive are permanently deleted and are not sent to the Recycle Bin.

1.4.1 Using Windows Explorer

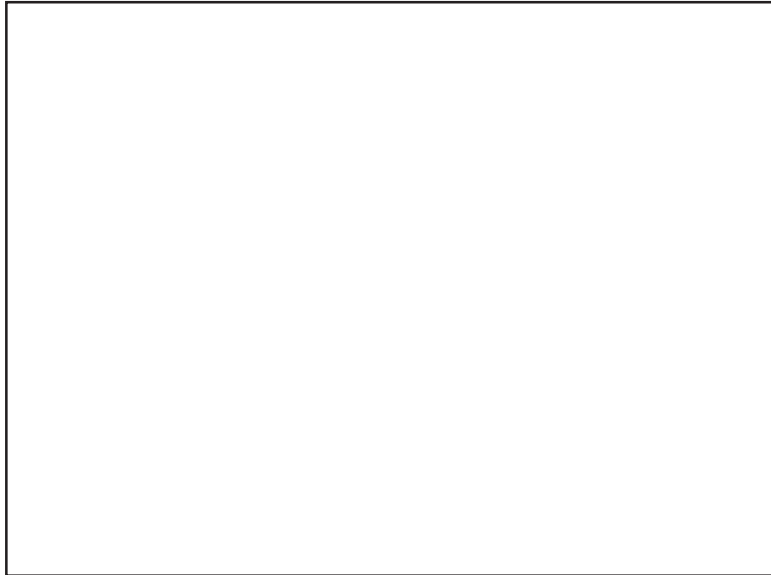


Fig. 1.8

To open Windows Explorer,

- Click on **Start**,
- Point to **All Programs**,
- Point to **Accessories**, and then click on **Windows Explorer**

Coping or Moving a file or Folder using My Document

- Click on **Start**, and then click on **My Documents**.

Click the file or folder to be copied. More than one file or folder can be copied at a time.



Fig. 1.9

- To select more than one file or folder, click the first file or folder, press and hold down **SHIFT key**, and then click the file or folder.
- To select non-consecutive files or folders, press and hold down **CTRL key**, and then click each of the files or folders to be copied.
- Under **Edit**, select **Copy**.
- Select the target drive or folder to which you want to copy the files
- Under **Edit**, select **Copy**.
- Select the target drive or folder to which you want to copy the files.
- Under **Edit**, select **Paste** to copy the desired file or folder to the target drive.

1.4.2 Coping and moving files using Explorer

- Click **Start**, point to **All Programs**, point to **Accessories**, and then click **Windows Explorer**.

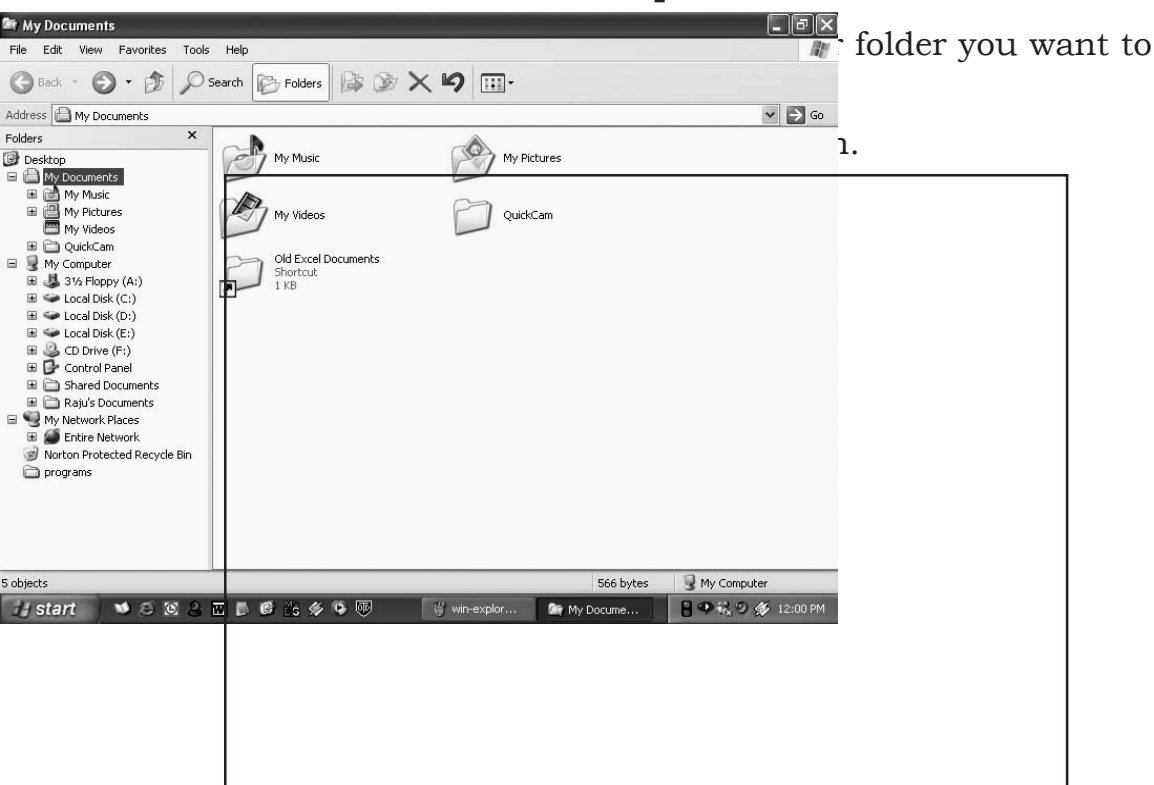


Fig. 1.10

- If you drag an item while pressing the right mouse button, you can move, copy, or create a shortcut to the file in its new location.
- To copy the item instead of moving it, press and hold down CTRL while dragging.
- If you drag an item to another disk, it is copied, not moved. To move the item, press and hold down SHIFT while dragging.
- Dragging a program to a new location creates a shortcut to that program. To move a program, right-click and then drag the program to the new location. You must be logged on as an administrator to move a program.

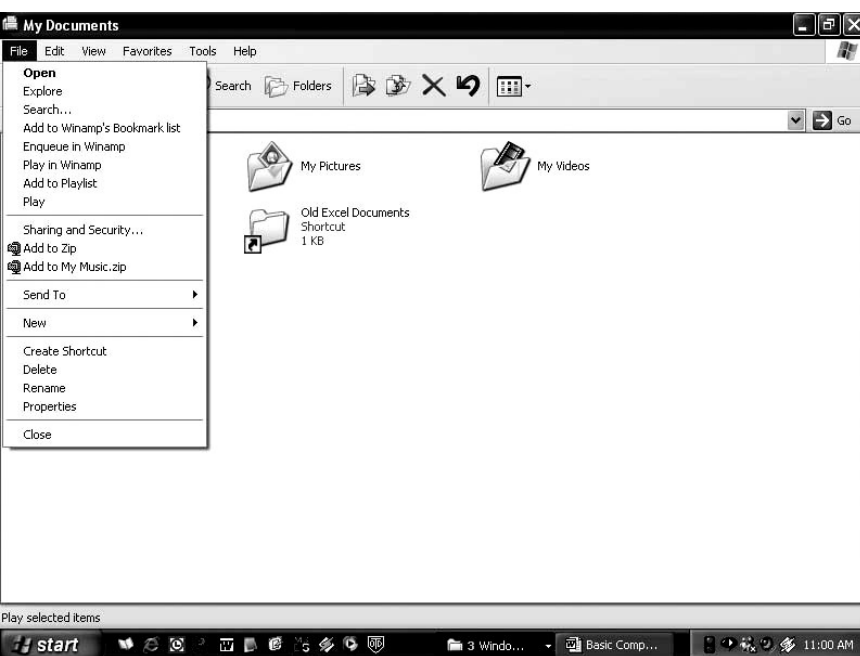
1.4.3 Rename a file or folder

1. Click on **Start**, and then click on **My Documents**
2. Click on the file or folder you want to rename.
3. Under **File**, click **Rename**.
4. Type the new name, and then press ENTER key.
5. File or folder can also be renamed by right clicking it and then clicking **Rename**.

1.4.4 Delete a file or folder

1. Click on **Start**, and then click on **My Documents**
 2. Click on the file or folder you want to delete.
 3. Under **File**, click **Delete**.
 4. Files or folders can also be deleted by right clicking the file or folder and then clicking **Delete**.
 5. Deleted files or folders are stored in the **Recycle Bin**, till they are permanently removed from the Recycle Bin.
 6. To retrieve a deleted file, double-click the **Recycle Bin** icon on the desktop. Right-click on the file to retrieve, and then click **Restore**.
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7. To permanently delete a file, press and hold down **SHIFT** and **drag** it to the Recycle Bin.



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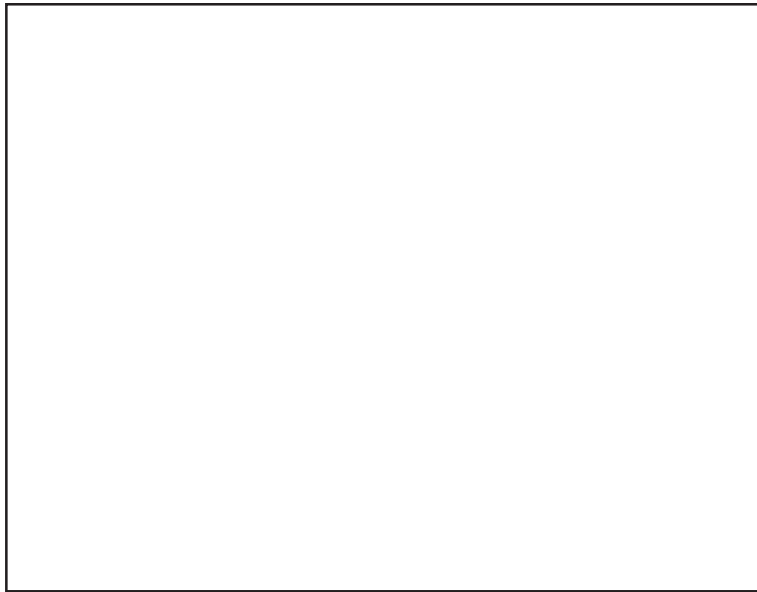


Fig. 1.12

1.4.6 View file details

1. Click on **Start**, and then click on **My Documents**
2. Double-click the folder that contains the files to be viewed.
3. On the **View** menu, click **Details**.
4. It will display all the details about the files such as Name, Type, size etc.

1.5 INSTALL SOFTWARE/HARDWARE

Windows provides a quick and easy way to install new software. Add or Remove Programs utility in Control Panel help to manage programs and components on the computer system computer. Using it one can install software packages such as Microsoft Word or Access etc. from a CD-ROM, floppy disk, or a network drive, or add or remove Windows updates and new features from the Internet. This can also be used to add or remove Windows components, which are not included in the original installation.

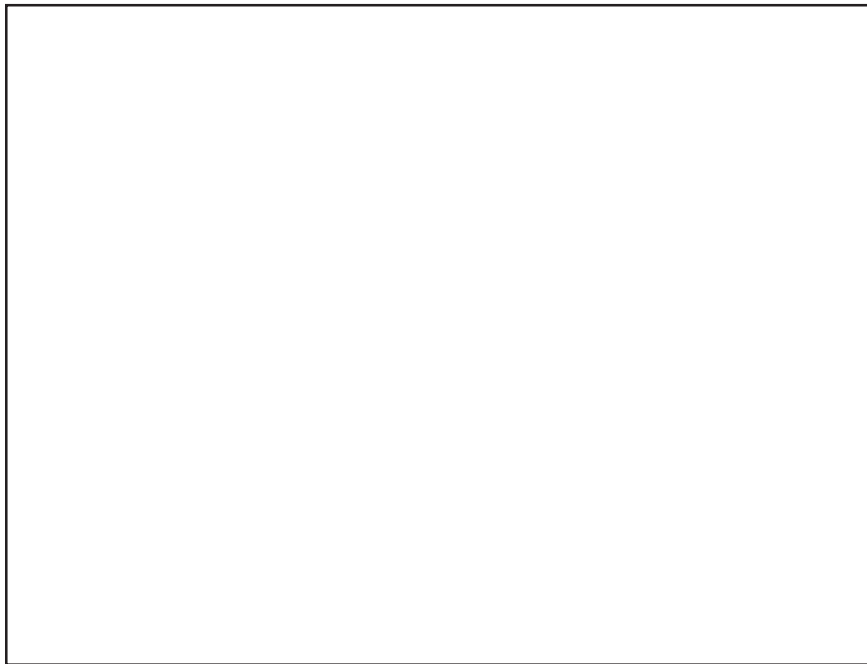
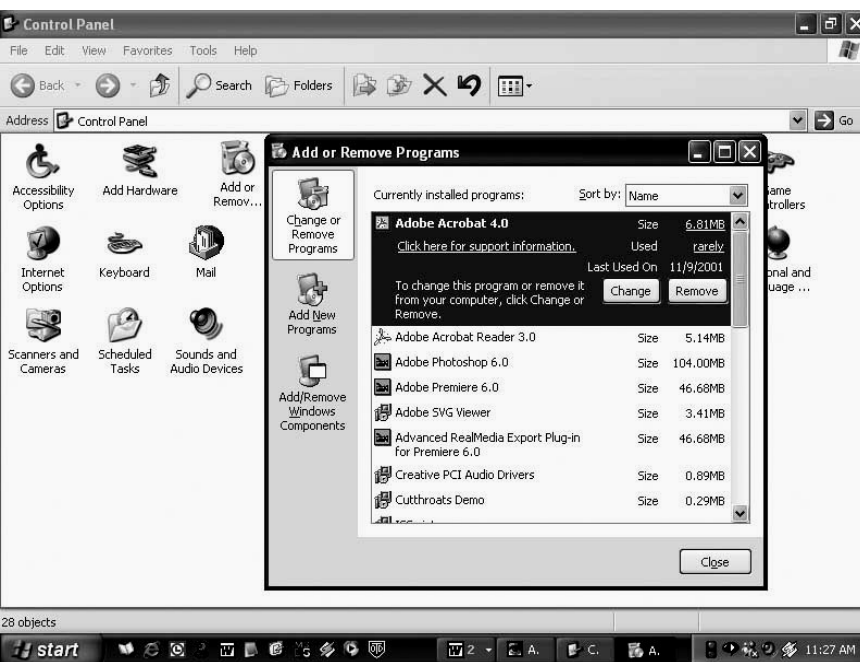


Fig. 1.13

1.5.1 Install Software



select the source
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and then select the
program you want to change or remove.

- To change a program, click on **Change** button.
- To remove a program, click on **Remove** button.

Add new features from Windows Update

1. Click **Start**, click **Control Panel**,
2. Double-click **Add or Remove Programs**.
3. Click **Windows Update**.
4. Follow the instructions to locate and install new Windows features or updates

Add or remove a Windows component

To be able to use this feature of Windows, the user must log in as an administrator or a member of the Administrators group.

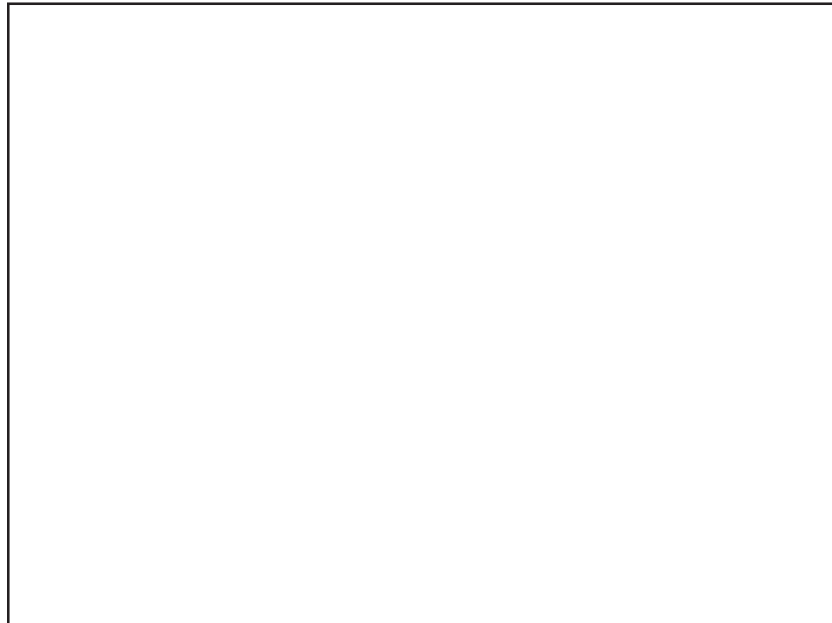


Fig. 1.14

1. Click **Start**, click **Control Panel**,
2. Double-click **Add or Remove Programs**.
3. Follow the instructions in the Windows Components Wizard.

1.5.2 Install Hardware

Windows can help you set up new hardware component such as sound card, video card or network card etc. to your computer.

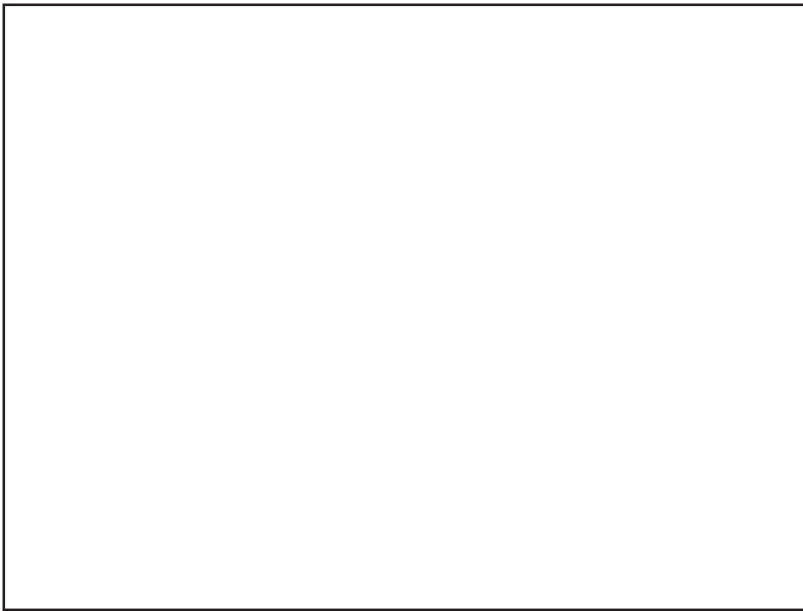


Fig. 1.15

1. Click **Start**, click **Control Panel**,
2. Double-click **Add Hardware**.



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easy way to install new

and select folder.

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you can create a shortcut to the file.

- (c) When you start the computer system, the task bar appears on the screen.
- (d) When files or folders are deleted from

windows places them in the recycle bin.

- (e) To select non-consecutive file or folder press and hold down key.
-

1.6 WHAT YOU HAVE LEARNT

In this lesson you learnt about important features of Windows XP. Now you are in a position to locate a file or folder and use windows explorer to manage files. Moreover, you can install software and hardware in the system. You can change system setting also.

1.7 TERMINAL QUESTIONS

1. Explain the steps to search for a file or folder.
 2. Describe the following
 - (a) Recycle bin
 - (b) Task bar
 - (c) Quitting a program
 - (d) File Management in Windows
 3. What are the steps to delete a file or folder from the computer.
 4. Explain the steps to install software in the computer.
 5. Describe the steps to rename a file or folder.
-

1.8 FEEDBACK TO INTEXT QUESTIONS

1.
 - (a) True
 - (b) False
 - (c) True
 2.

(a) Right mouse button	(b) Right
(c) Bottom	(d) Hard disk
(e) CTRL key	
-

2

Computer Network and Communication

2.1 INTRODUCTION

As we all know, the advances in Information technology revolutionized almost every aspect of our life. Education, industry, banking, researches and governance to name a few are based on information. Unlike earlier days of computers where computing was meant for either stand-alone PCs or Centralized mainframe situated within the limits and boundaries of the organization only. Present scenario is devoted to Internet where computing means sharing the information across the globe. Every piece of information generated at different stages of an activity may be shared at any location on earth. This is all because of the way we process the data. Now, we store data in a more compact form and maintain it through modern concepts and communicate it using latest techniques available all around. Gone are the days when somebody needed to carry unreliable and perishable floppy drives, magnetic tapes or such media to move data from one place to another place. Thanks to the latest communication techniques that now you can see your office files even while sitting miles away from your place. Your holiday photographs with your nearest relation at different end of the country, and lot more. So, in this lesson, you will learn the basics of computer network and communication revolution.

2.2 OBJECTIVES

After going through this lesson, you would be able to:

- define data communication systems
- identify different types of communication using Networks
- differentiate between different types of Network topologies
- explain different network devices
- explain different communication protocols

2.3 DATA COMMUNICATION

In every day-to-day activity, we generate some data. For example, suppose a student is appearing in examination. He/she generates answers for the questions given. An examiner examines them and awards the marks accordingly. A teacher may further use these marks for grading the students. All these steps of examination generate data in some sort, which represent a defined meaning. Other examples could be an Excel data file, a Word processor document, music on CD, etc.

Data and information from one computer system can be transmitted to other computer systems spread across a wide geographical areas. This is done by means of electrical signals. A signal may be defined as “*electric or electromagnetic encoding of data*”. Examples could be Telephonic conversation and digital data streams etc. These signals are of two types, namely, Analog signals & Digital signals. In Analog signal the transmission pattern is in continuous wave form. It varies over a continuous range with respect to sound, light and radio waves. On the other hand, a digital signal may assume only discrete set of values within a given range. Analog signal is measured in Volts and its frequency in Hertz (Hz). A digital signal is a sequence of voltage represented in binary form. Any form of signal may be transformed into the other form. For example, a music file stored in computer (digital) transformed into audible music (analog). Though, analog signals can be communicated via any media, these are more prone to data impairments such as noise and it is more difficult to separate such discrepancies from analog signals than from their digital counterparts.

2.4 COMMUNICATION TYPES

P-to-P Communication (Point to Point Communication): Peer to peer or point-to-point transmission is done in networks where a single communication channel is not shared by all nodes. But in this one, the communication channels are only shared between only two adjoining nodes like in the case of ring topology. To send the packet (data) between two nodes the packet is passed from the source node to its adjoining node. Upon receiving the packet the address part is checked and if the packet is not intended for that node then it is regenerated and passed to its adjoining node according to the routing algorithms which play an important role in point to point communication. The packet is passed on like this till it reaches the destination. This type of transmission is done over the Wide Area Network (WAN) and Metropolitan Area Network (MAN) .

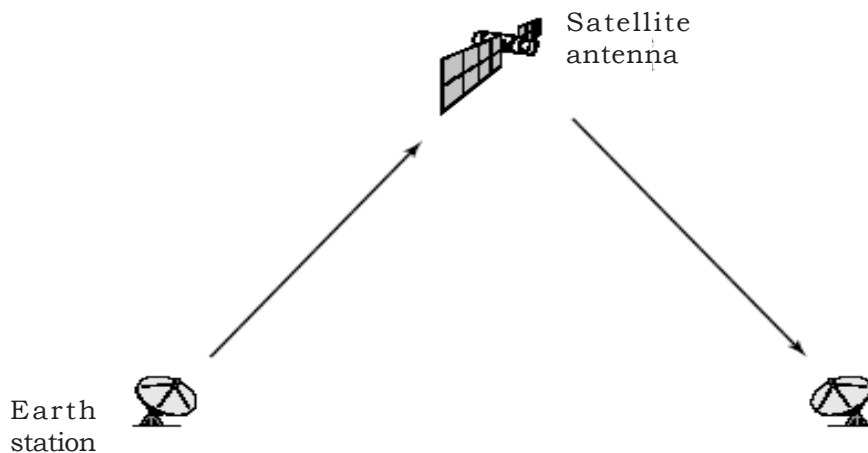


Fig. 2.1: Point to Point Communication

Broadcasting:

Broadcasting is a type of transmission technology in which the transmission of data from one node to another node is made. Broadcasting systems generally allow addressing a packet to all destinations by using a single code in the address fields. It is done on the broadcast network. A broadcast network have a single communication channel that is shared by all the other nodes, when the packet with this code is transmitted, it is received and processed by every machine on the network. An address field within the packet specifies for whom it is intended. A machine checks the address field if the packet is intended for itself

otherwise the packet will be discarded. This mode of operation is called Broadcasting. This sort of transmission is generally done on Local Area Network (LAN).

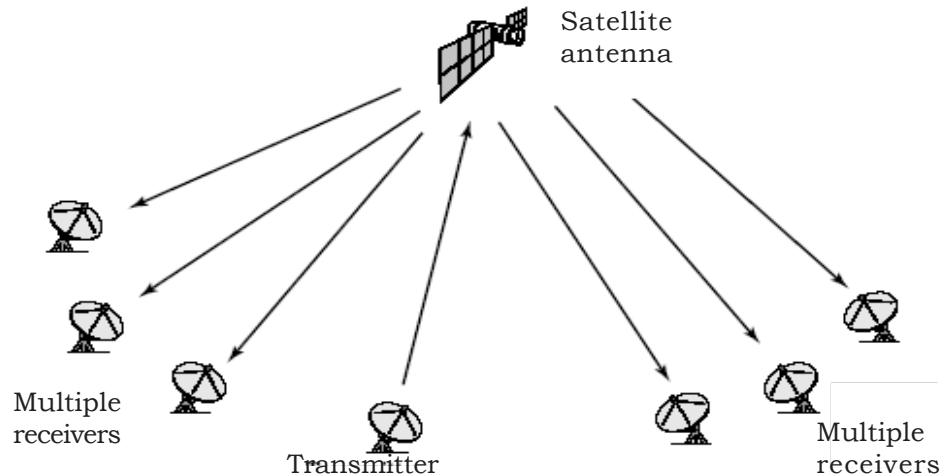


Fig. 2.2: Broadcast Communication

Some broadcast systems support transmission to a subset of the machine, which is known as multicasting when a packet is sent to a certain group; it is delivered to all machines subscribing to that group.

2.5 NETWORK TOPOLOGY

In the context of communication network the term topology refers to the way the computers or workstations in the network are linked together. According to the physical arrangement of workstations and nature of work, there are four major types of network topology. These are *bus topology*, *ring topology*, *star topology*, and *mesh topology*.

Bus topology: This network topology connects networking components along a single cable or uses a series of cable segments that are connected linearly. A network that uses a bus topology is referred to as a “bus network.” Bus topology is used for:

- Small workgroup Local Area Networks (LANs) whose computers are connected using a thin-net cable
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- Trunk cables connecting hubs or switches of departmental LANs to form a larger LAN
- Back-boning, by joining switches and routers to form campus-wide networks

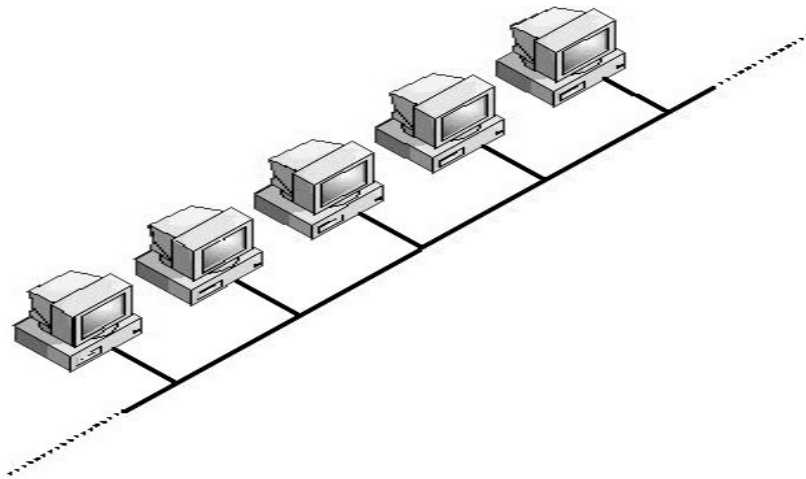


Fig. 2.3: Bus topology

Bus topology is the cheapest way of connecting computers to form a workgroup or departmental LAN, but it has the disadvantage that a single loose connection or cable break can bring down the entire LAN.

Ring topology: This is a network topology in which network stations are connected along a single path whose ends are joined to form a circle. The circle might be logical only. The physical arrangements of the cabling might be star like, with a hub or concentrator at the center. A ring network is based on a ring topology.

The ring topology is commonly used in the following kinds of networks:

- **Token ring networks:** The ring of a token ring network is concentrated inside a device called a *Multistation Access Unit (MAU)*.
 - **Fiber Distributed Data Interface (FDDI) networks:** The ring in this case is both a physical and logical ring and usually runs around a campus or collection of buildings to
-

3

Internet and Services

3.1 INTRODUCTION

The Internet began way back in 1969 when it was called ARPANet (Advanced Research Project Agency Network) and was used exclusively for military purposes. It soon merged with non-government and academic networks, which grew and eventually came to be called Internet in the year 1979. Today it is simply a “**network of worldwide computer networks**”.

In the present age of Information Technology, the Internet is a medium for *accessing information on any topic* you imagine, for *buying products and services* ON-LINE. It also provides tremendous opportunities to students; researchers and professionals for getting information on matters related to academic and professional topics and lot more.

3.2 OBJECTIVES

After going through this lesson, you would be able to :

- explain Internet addressing conventions and Domain Name System
 - describe terminologies used in Internet
-

- explain different Internet Services
- use of various Internet Services: (Email, FTP, Telnet web search engine)

3.3 WHAT IS INTERNET?

The Internet or simply the Net is a **worldwide network of computer networks**. It is an interconnection of large and small networks around the globe.

3.4 APPLICATIONS OF INTERNET

By using Internet facility you can:

- Exchange messages using e-mail (Electronic mail)
- Transfer files as well as software (FTP)
- Browse through information on any topic on web (Internet Surfing)
- Communicate in real time with others connected to the Internet (Chatting over Internet)
- Search databases of government, individuals and organizations (Information Search).
- Set up a site with information about your company's products and services (Internet Hosting).
- Read news available from leading news groups.

3.5 GETTING CONNECTED TO INTERNET

To connect to the Internet you need a PC (personal computer) with requisite software including a browser, a telephone connection or a leased line, a modem, which allows the PC to communicate with other computer.

3.5.1 Types of Internet connections

Dial-up

This is the most common and basic type of Internet connection

available from ISPs (Internet Server Providers). In Dial-up connection, you dial a phone number (provided by the ISP) to get connected to a server at ISP. Once connected to the ISP server, you get to access Internet. It means you are not directly connected to Internet; you access the Internet through an ISP. This process is illustrated in fig. 3.1 below:

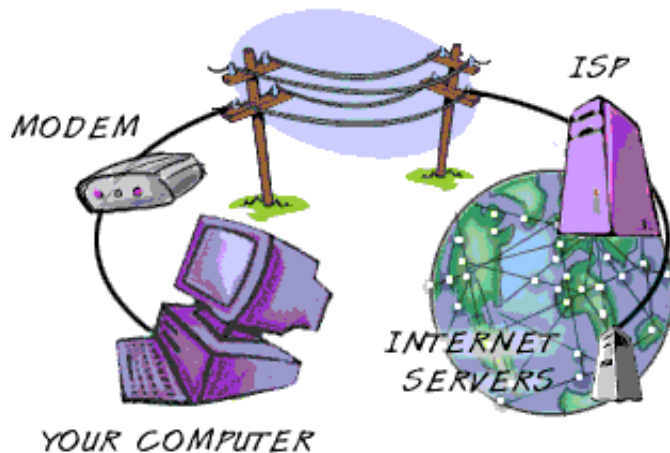


Fig. 3.1 : Dial up connection

Benefits:

- Very economic and is widely available
- Easy to setup and use

Drawbacks:

- Very slow
 - Once connected, the *same telephone line cannot be used for phone calls*
 - It transfers data over an analog line. So before the data is sent it has to be converted from digital to analog signal, likewise, when data is received it has to be converted from analog to digital signal (this is what the MODEM does), this adds performance overhead which affects the speed of the connection.
-

3.5.2 ISDN (Integrated Services Digital Network)

In the ISDN process of connecting to server to access Internet is almost same as Dial-up, but it offers connectivity through the use of *digital phone lines* instead of standard line Analog. It offers Internet connectivity at *speeds of up to 128 Kbps*, allows the user to *receive or make calls simultaneously on the same line*. ISDN comes through a regular telephone wire from the telephone pole on your street. The line combines two 64 Kbps channels to offer 128 Kbps bandwidth broken into three bands: One band for the ringing signal of your phone, one band for your telephone conversation, and one band for data.

Benefits:

- Single connection can support both voice and data.
- Eight terminals can be connected on a single line.
- Signal on ISDN line-voice or data is sent in digital mode, so less prone to noise, have very high quality service.
- *Two calls* (which could be voice, data, image or combination of any two) can be *established simultaneously* on a single pair of lines.
- High-speed data transfer from PC to PC.

Drawbacks:

- A special ISDN line must be installed at the customer's location.
- A special ISDN modem or router is also required.

3.5.3 Direct Internet Access (Leased Line Connection)

Leased line is a “**permanent connection**” between a computer system (single CPU or LAN, and the Internet). It is generally used by larger institutions, corporate and government agencies. It involves establishing your own Internet gateway (connection) and paying to have a direct full time line with the network. Your Computers, in effect, become part of the Internet. The main

advantage of this connection is that: it is *on line – 24 hrs a day, seven days a week, (24x7)* and provides faster access.

Dedicated links are established through service provider who places a computer-controlled router (message director) at the site. A router is used to connect local network to the Internet, and it allows all the members of the network complete access to Internet.

3.5.4 DSL (Digital Subscriber Line or Dedicated Service Line) Broadband Connection

DSL, is an “**always-on**” and widely used **data connections** and can provide an excellent Internet connection. It connects your home or office to the Internet through the same telephone wire that comes from telephone pole on the street. Like ISDN, with DSL, user can *make and receive telephone calls* while connected to the Internet. The difference between DSL and dial-up / ISDN is that a DSL Internet connection uses a high-speed dedicated circuit filtering out standard phone calls and Internet signals.

Benefits:

- Connections are ‘**always on**’.
- *Talk and access Internet simultaneously* on single line.
- DSL utilizes the standard copper wiring already installed into businesses and homes, requiring no special line installation for service.
- High Speed data download; data speed starts from *256 kbps to 2 mbps*.
- Can share this connection to create own LAN Network i.e. more than one PC can be connected.

Drawbacks:

- Hardware costs are very high, as you need *a special DSL modem* and a *DSL filter* to use the service.
 - Since a ADSL connections are ‘*always on*’ you need *a firewall* to protect your PC.
-

4

Introduction to HTML

4.1 INTRODUCTION

HTML (Hypertext Markup Language) is used to create document on the World Wide Web. It is simply a collection of certain key words called 'Tags' that are helpful in writing the document to be displayed using a browser on Internet.

It is a platform independent language that can be used on any platform such as Windows, Linux, Macintosh, and so on. To display a document in web it is essential to mark-up the different elements (headings, paragraphs, tables, and so on) of the document with the HTML tags. To view a mark-up document, user has to open the document in a browser. A browser understands and interpret the HTML tags, identifies the structure of the document (which part are which) and makes decision about presentation (how the parts look) of the document.

HTML also provides tags to make the document look attractive using graphics, font size and colors. User can make a link to the other document or the different section of the same document by creating Hypertext Links also known as Hyperlinks.

4.2 OBJECTIVES

After going through this lesson, you would be able to :

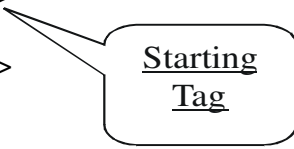
- create, save and view a HTML document
- format a web page using section heading tags
- describe Ordered and Unordered lists
- explain graphics in HTML document
- describe hypertext links and making text/image links

4.3 CREATING, SAVING AND VIEWING A HTML DOCUMENT

4.3.1 Creating a HTML document

The essential tags that are required to create a HTML document are:

- `<HTML>.....</HTML>`
- `<HEAD>.....</HEAD>`
- `<BODY>.....</BODY>`



Starting
Tag

- **HTML Tag `<HTML>`**

The `<HTML>` tag encloses all other HTML tags and associated text within your document. It is an optional tag. You can create an HTML document that omits these tags, and your browser can still read it and display it. But it is always a good form to include the start and stop tags.

The format is:

`<HTML>`

Your Title and Document (contains text with HTML tags) goes here

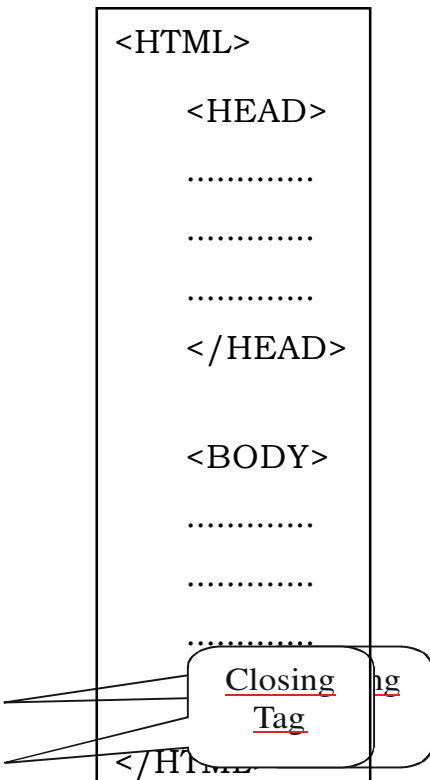
`</HTML>`

Most HTML tags have two parts, an opening tag and closing tag. The closing tag is the same as the opening tag, except for the slash

mark e.g </HTML>. The slash mark is always used in closing tags.

An HTML document has two distinct parts **HEAD** and **BODY**.

The Format is:



- **HEAD Tag <HEAD>**

HEAD tag comes after the HTML start tag. It contains TITLE tag to give the document a title that displays on the browsers title bar at the top.

The Format is:

```
<HEAD>
  <TITLE>
  Your title goes here
  </TITLE>
</HEAD>
```

- **BODY Tag <BODY>**

The BODY tag contains all the text and graphics of the document with all the HTML tags that are used for control and formatting of the page.

The Format is:

<BODY>

Your Document goes here

</BODY>

An HTML document, web page can be created using a text editor, Notepad or WordPad. All the HTML documents should have the extension .htm or .html. It require a web browser like Internet Explorer or Netscape Navigator/Communicator to view the document.

Example: *It is my first web page*

Follow the steps to **create and view** in browser:

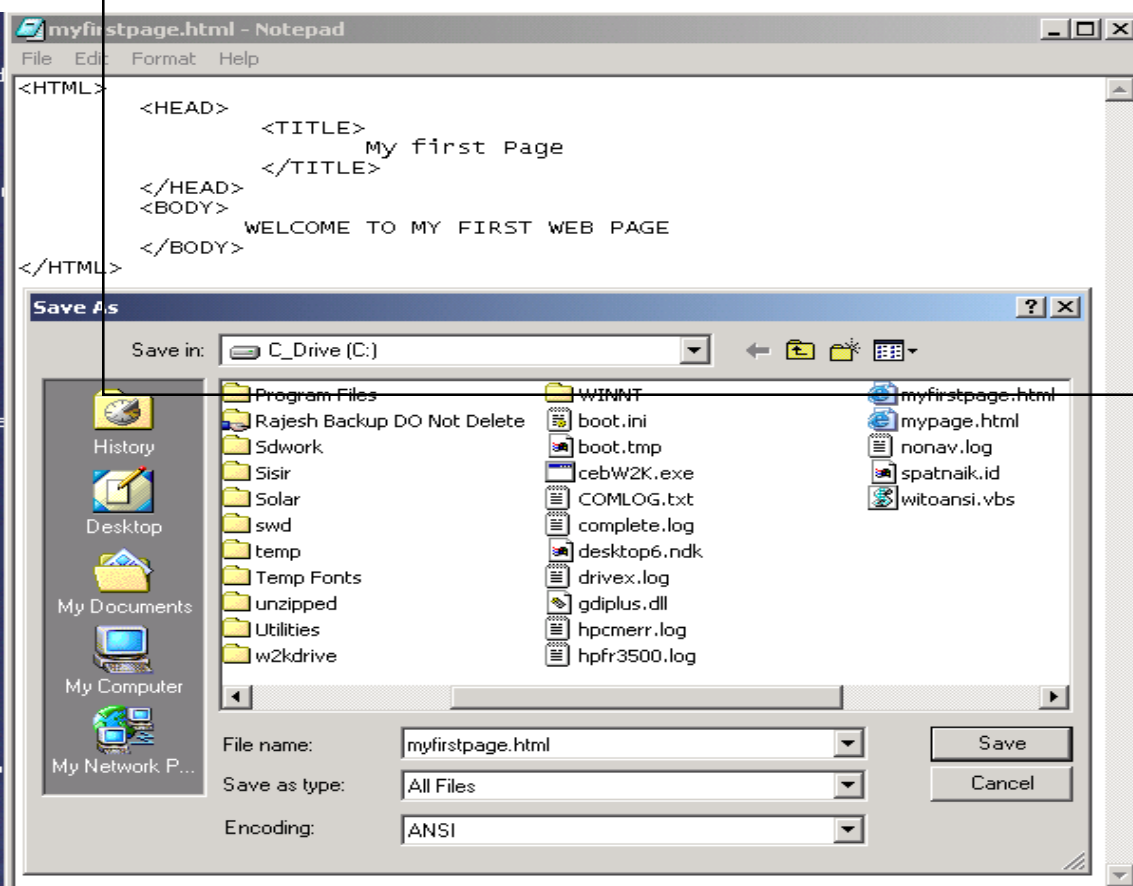
Step-1: Open text editor Notepad (click on *Start→ All Programs→ Accessories→Notepad*)

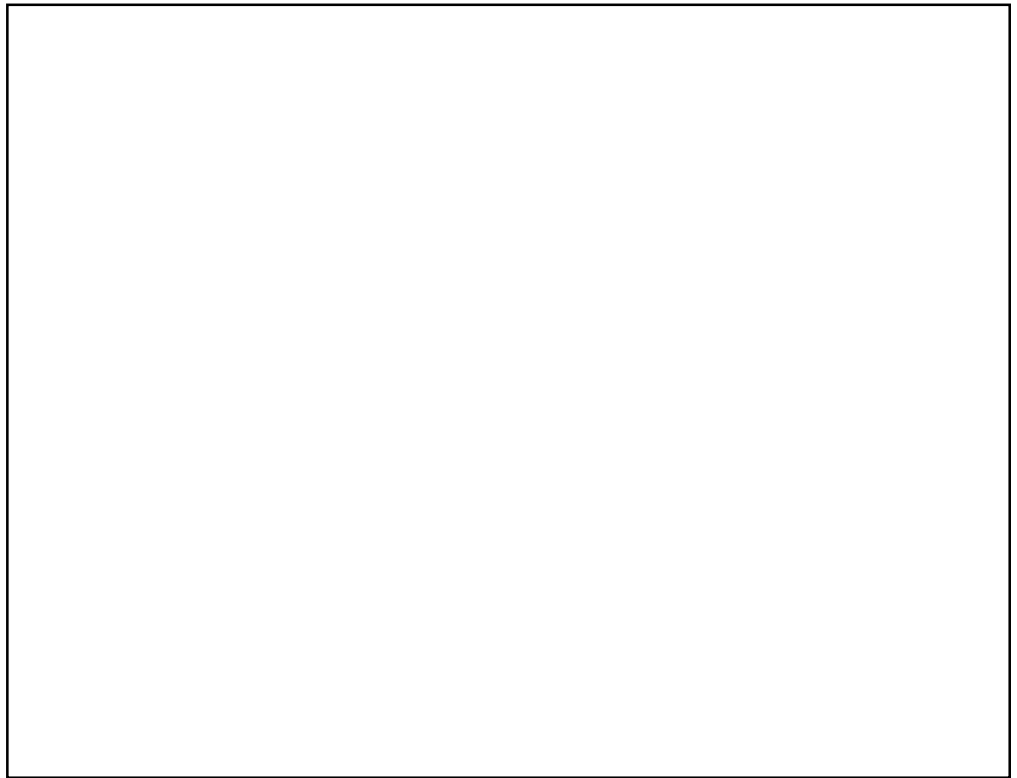
Step-2: Enter the following lines of code:

```
<HTML>
  <HEAD>
    <TITLE>
      My first Page
    </TITLE>
  </HEAD>
  <BODY>
    WELCOME TO MY FIRST WEB PAGE
  </BODY>
</HTML>
```

Step-3: Save the file as **myfirstpage.html** (go to File-Save As-give File name: myfirstpage.html-choose save as type: All Files-click save)

Step-4: Viewing document in web browser (open Internet Explorer-click on File-Open-Browse-select the file myfirstpage.html-click open-click ok)





**Fig : 4.2 Viewing HTML document
myfirstpage.html in browser**

Attributes used with <BODY>

- **BGCOLOR:** used to set the background color for the document

Example:

```
<BODY BGCOLOR="yellow">
```

Your document text goes here.

```
</BODY>
```

- **TEXT:** used to set the color of the text of the document

Example:

```
<BODY TEXT="red">
```

Document text changed to red color

</BODY>

- **MARGINS:** set the left hand/right hand margin of the document
- **LEFTMARGIN:** set the left hand margin of the document

Example:

```
<BODY LEFTMARGIN="60">
```

This document is indented 60 pixels from the left hand side of the page.

</BODY>

- **TOPMARGIN:** set the left hand margin of the document

Example:

```
<BODY TOPMARGIN="60">
```

This document is indented 60 pixels from the top of the page.

</BODY>

- **BACKGROUND:** It is used to point to an image file (the files with an extension **.gif**, **.jpeg**) that will be used as the background of the document. The image file will be tiled across the document.

Example:

```
<BODY BACKGROUND="filename.gif">
```

Your document text goes here

</BODY>

Example: *An HTML document attribute.html that shows the use of attributes with the <BODY> tag*

```
<HTML>
  <HEAD>
    <TITLE>
      Use of Attributes with the Body Tag
    </TITLE>
  </HEAD>
  <BODYBACKGROUND="computer.gif" text="blue"
  TOPMARGIN ="75"
  LEFTMARGIN="75">
```

Your document text will be indented 75 pixels from the left hand and 75 pixels from the top of the page. The background image computer.gif will be tiled across the document. Your image and HTML document should present at the same place.

```
</BODY>
</HTML>
```

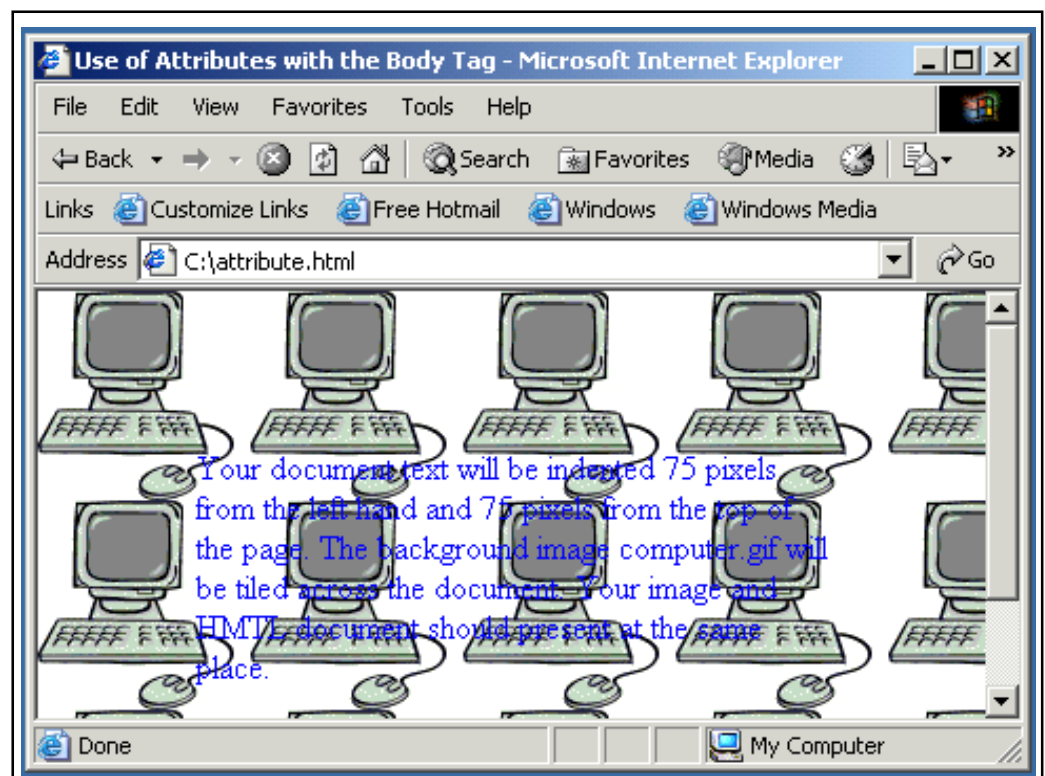


Fig. 4.3 : Viewing HTML document attribute.html in browser

Container and Empty Tags

All HTML tags are enclosed in angle brackets ‘<’ and ‘>’ i.e. Opening Tag: <HTML> and closing tag: </HTML> same as opening tag except a / (slash) mark. Tags are not case-sensitive i.e. there is no difference in small and capital letters in tags.

There are two types of tags:

1. **Container Tags:** Tags which have both the opening and closing i.e. <TAG> and </TAG> are called container tags. They hold the text and other HTML tags in between the tags. The <HTML>, <HEAD>, <TITLE> and <BODY> tags are all container tags.

Example:

<TAG> this is a container tag. It holds both the text and HTML tag </TAG>

2. **Empty Tags:** Tags, which have only opening and no ending, are called empty tags. The <HR>, which is used to draw Horizontal, rule across the width of the document, and line break
 tags are empty tags.

INTEXT QUESTION

1. Write True or False for the following:
 - (a) The HTML language is used to create document on the World Wide Web.
 - (b) Head part of a web page should the <TITLE> tag.
 - (c) HTML is a platform dependent language.
 - (d) HEAD is a container tag.
-

4.4 FORMATTING WEB PAGE

HTML tags used for formatting a web page are:

SECTION HEADING: <H1>.....<H6>

HTML has six header tags <H1>, <H2>.....<H6> used to specify section headings. Text with header tags is displayed in larger and bolder fonts than the normal body text by a web browser. Every header leaves a blank line above and below it when displayed in browser.

Example: An HTML document, *headings.html* shows the different section headings

```
<HTML>
  <HEAD>
    <TITLE>
      Section Heading
    </TITLE>
  </HEAD>
  <BODY>
    <H1> This is Section Heading 1 </H1>
    <H2> This is Section Heading 2 </H2>
    <H3> This is Section Heading 3 </H3>
    <H4> This is Section Heading 4 </H4>
    <H5> This is Section Heading 5 </H5>
    <H6> This is Section Heading 6 </H6>
  </BODY>
</HTML>
```

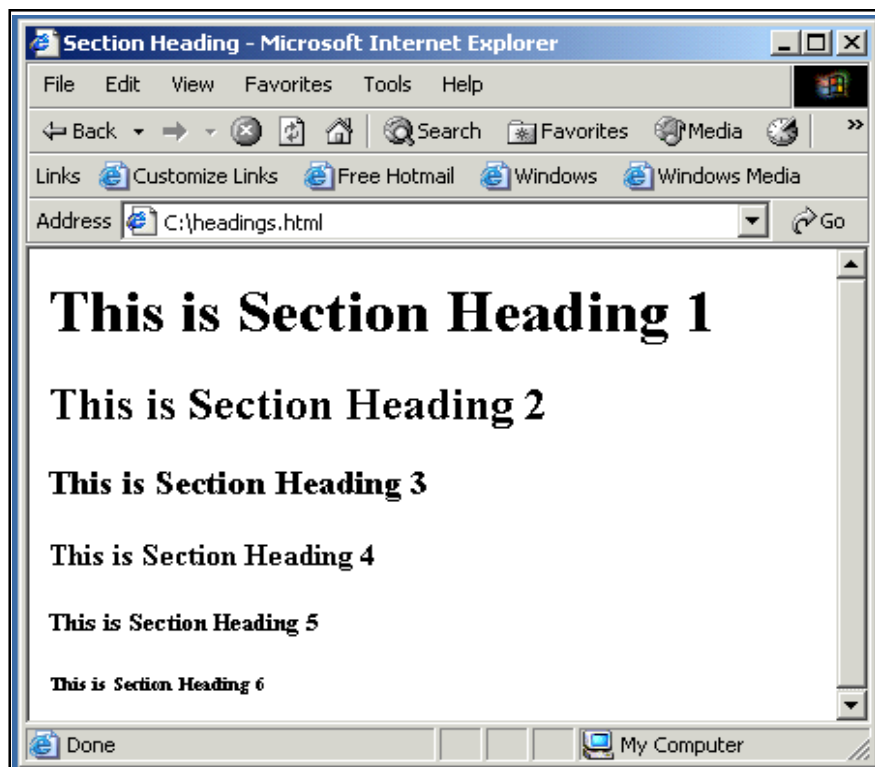


Fig. 4.4 : Viewing HTML document headings.html in browser

Some peculiarities about the web browser on viewing HTML document text:-

- Browsers ignore extra space within HTML document

Browsers ignore any additional space you type, and compress the text as if the space did not exist. For Example: You can have text "My First Page" in HTML document but in browser it display, "My First Page".

- Browsers ignore your extra line and paragraph breaks

Generally you press enter when you want to create line and paragraph breaks, but they won't show up when you view the document in browser.

**In order to control your paragraph and line breaks, <P> and
 tags are used.**

Using paragraph tag: <P>

This tag <P> indicates a paragraph, used to separate two paragraphs with a blank line.

Example:

```
<P> Welcome to the world of HTML </P>
```

```
<P> First paragraph.
```

```
    Text of First paragraph goes here </P>
```

Output:

Welcome to the world of HTML

First paragraph. Text of First paragraph goes here

Here, two paragraphs are separated with a line. But web browser ignores the line breaks in the second paragraph that can be controlled by putting
 tag.

Using Line Break Tag:

The **empty tag**
 is used, where the text needs to start from a new line and not continue on the same line. To get every sentence on a new line, it is necessary to use a line break.

Example:

```
<BODY>
```

```
    National Institute of Open Schooling <BR>
```

```
    B-31B, Kailash Colony <BR>
```

```
    New Delhi-110048
```

```
</BODY>
```

Output:

National Institute of Open Schooling

B-31B, Kailash Colony

New Delhi-110048

Using Preformatted Text Tag: <PRE>

<PRE> tag can be used, where it requires total control over spacing and line breaks such as typing a poem. Browser preserves your space and line break in the text written inside the tag.

Example:

<PRE>

National Institute of Open Schooling
B-31B, Kailash Colony
New Delhi-110048

</PRE>

Output:

National Institute of Open Schooling
B-31B, Kailash Colony
New Delhi-110048

Example: An *HTML* document *control.html* shows the use of <P>,
 and <PRE>

```
<HTML>
  <HEAD>
    <TITLE>
      Use of Paragraph, Line break and preformatted text Tag
    </TITLE>
  </HEAD>
  <BODY>
    HTML Tutorial
    <P>
      HTML stands for Hypertext Markup Language
      It is used for creating web page. It is very simple
      and easy to learn.
    </P>
    <P>
```

HTML stands for Hypertext Markup Language.

It is used for creating web page. It is very simple

and easy to learn.

</P>

<PRE>

HTML stands for Hypertext Markup Language
It is used for creating web page. It is very simple
and easy to learn.

</PRE>

</BODY>

</HTML>

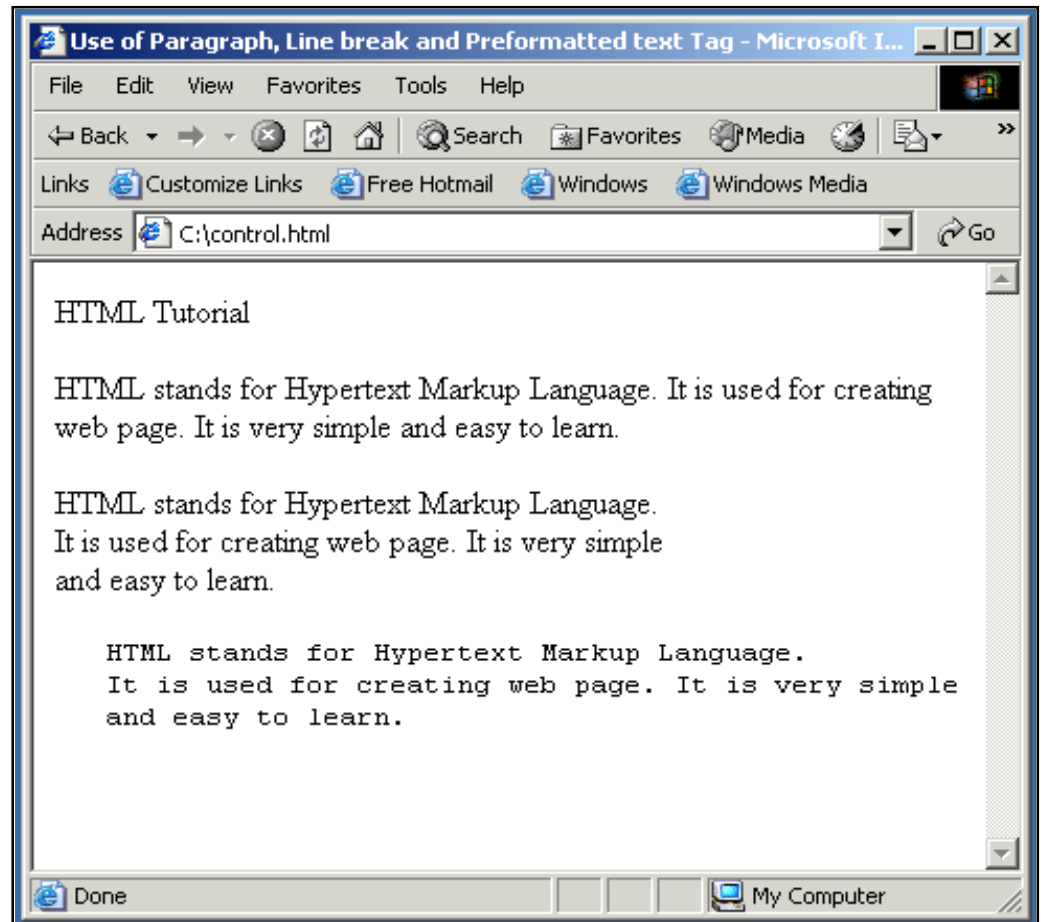


Fig. 4.5

Using Horizontal Rule Tag: <HR>

An empty tag <HR> basically used to draw lines and horizontal rules. It can be used to separate two sections of text.

Example:

```
<BODY>
```

Your horizontal rule goes here. <HR>

The rest of the text goes here.

```
</BODY>
```

Output:

Your horizontal rule goes here.

The rest of the text goes here.

<HR> accepts following attributes:

- **SIZE:** Determines the thickness of the horizontal rule. The value is given as a pixel value.

Example: <HR SIZE="3">

- **WIDTH:** Specifies an exact width of HR in pixels, or a relative width as percentage of the document width.

Example: <HR WIDTH="50%">, horizontal rule a width a 50 percent of the page width.

- **ALIGN:** Set the alignment of the rule to LEFT, RIGHT and CENTER. It is applicable if it is not equal to width of the page.

- **NOSHADE:** If a solid bar is required, this attribute is used; it specifies that the horizontal rule should not be shaded at all.

- **COLOR:** Set the color of the Horizontal rule.

Example: <HR COLOR="BLUE">

Example of <HR> with its attribute:

```
<HR ALIGN="CENTER" WIDTH="50%" SIZE="3" NOSHADE  
COLOR="BLUE">
```

Character Formatting Tags

The character formatting tags are used to specify how a particular text should be displayed on the screen to distinguish certain characters within the document.

The most common character formatting tags are:

- Boldface : displays text in **BOLD**
Example: Welcome to the Internet World
Output: Welcome to the **Internet World**
- Italics <I>: displays text in *Italic*
Example: Welcome to the <I> Internet World </I>
Output: Welcome to the *Internet World*
- Subscript <SUB>: displays text in _{Subscript}
- Superscript <SUP>: displays text in ^{Superscript}
- Small <SMALL>: displays text in smaller font as compared to normal font
- Big <BIG>: displays text in larger font as compared to normal font
- **Font Colors and Size:**

By using Tag one can specify the colors, size of the text.

Example: Your text goes here

Attributes of are:

- COLOR: Sets the color of the text that will appear on the screen. It can be set by giving the value as #rr0000 for red
-

(in RGB hexadecimal format), or by name.

Example: `<FONT COLOR="RED"> Your text goes here </FONT>`

- **SIZE:** Sets the size of the text, takes value between 1 and 7, default is 3. Size can also be set relative to default size for example; `SIZE=+X`, where X is any integer value and it will add with the default size.

Example: `<FONT SIZE=5> Font Size changes to 5 </FONT>`
`<FONT SIZE=+2> Font Size changes to 5 i.e. default size (3) ±2</FONT>`

- **FACE:** Sets the normal font type, provided it is installed on the user's machine.

Example: `<FONT FACE="ARIAL"> the text will be displayed in Arial</FONT>`

Example: An HTML document *formatText.html* shows the use of Character Formatting Tags.

```
<HTML>
  <HEAD>
    <TITLE>
      Use of Character Formatting Text Tags
    </TITLE>
  </HEAD>
  <BODY>
    <H1><I> Welcome to the world of Internet</I></H1>
    It is a
    <FONT COLOR="BLUE" SIZE="4">
      <U>Network of Networks</U>
    </FONT>
  </BODY>
</HTML>
```

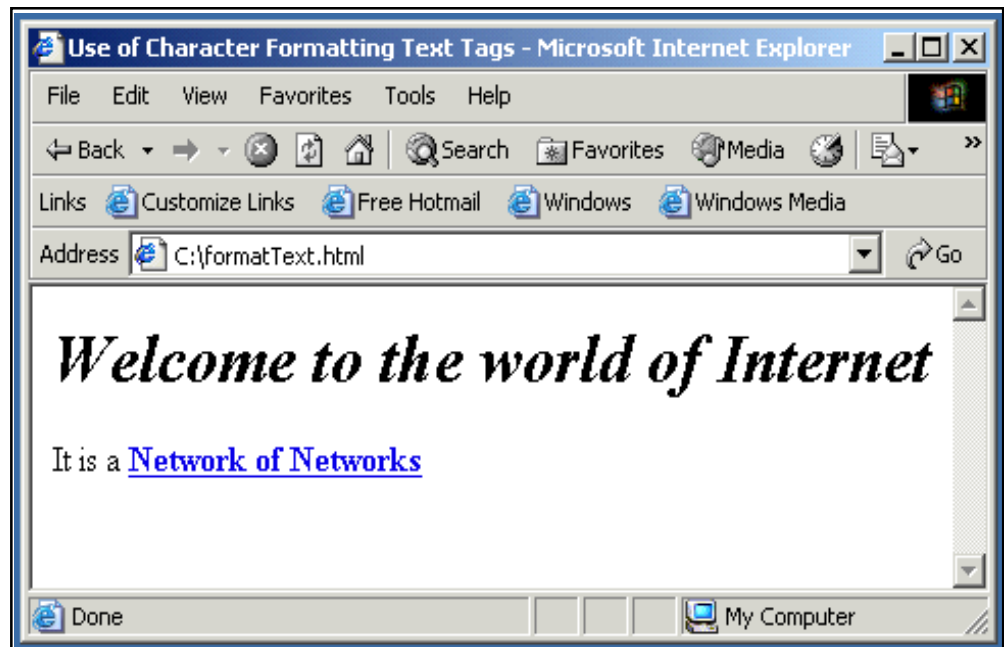


Fig. 4.6 : Viewing HTML document formatText.html in browser

Using Some Special Characters

There are certain special characters that can be used while creating document.

Following are some special character:

Symbols	Entity
©, ®	©, ®
¼, ½, ¾	¼, ½, ¾
÷, <, >, ≤, ≥	÷, <, >, &le, &ge
&	&
♣ ♠ ♥	&spades, &clubs, &hearts

All these special character must be ended with a semicolon;

Example: <PRE>

The copyright symbol is: ©

The registered rank is: ®

</PRE>

Output: The copyright symbol is:©

The registered rank is:®

4.5 USING LIST IN WEB PAGE

HTML Supports several ways of arranging items in lists. The most commonly used are:

- Ordered List (Numbered List)
- Unordered List (Bulleted List)

Ordered List

Ordered list also called as Numbered list, is used to present a numbered list of item in the order of importance or the item (paragraph) is marked with a number.

An ordered list must begin with the followed by an list item tag.

Example: An HTML document *orderedList.html* shows the use of Ordered List

```
<HTML>
  <HEAD>
    <TITLE>
      An Ordered List
    </TITLE>
  </HEAD>
  <BODY>
    <H1><U> Various Terms Used In Internet</U></H1>
    <OL>
      <LI> WWW-World Wide Web
      <LI> URL-Uniform Resource Locator
      <LI> HTTP-Hypertext Transfer Protocol
      <LI> FTP-File Transfer Protocol
      <LI> HTML-Hypertext Markup Language
    </OL>
  </BODY>
</HTML>
```

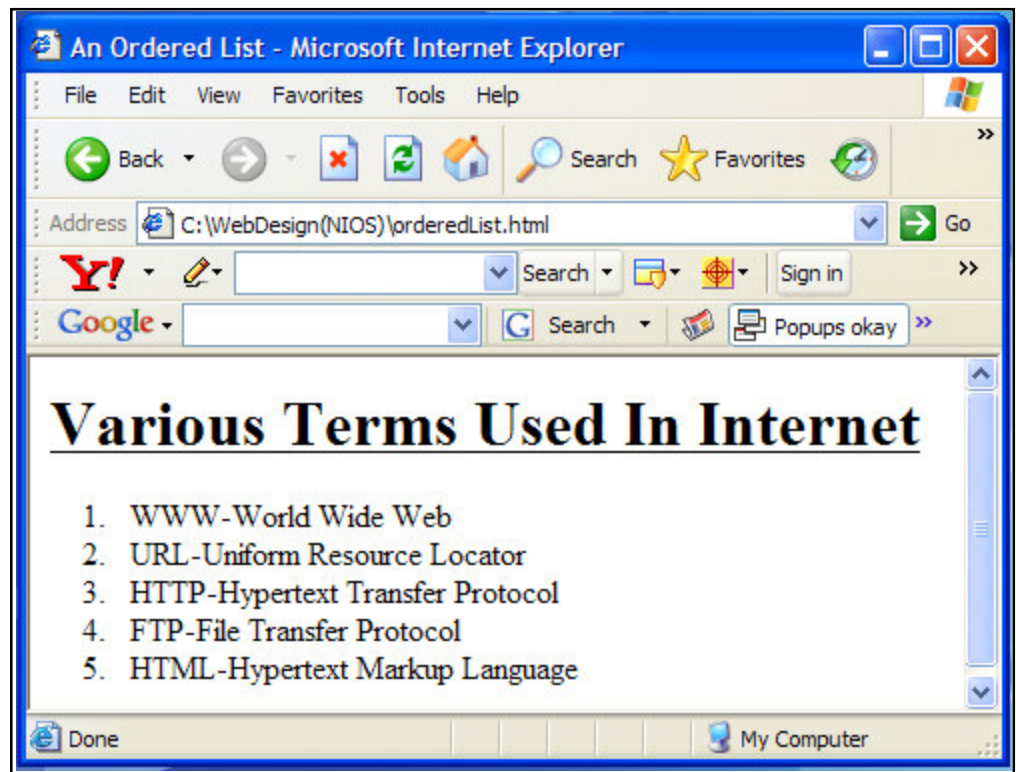


Fig. 4.7 : Viewing HTML document orderedList.html in browser

Attributes of tag:

- COMPACT: render a list in compact form.
- TYPE : allows marking list items with different types. By default the list Item markers are set to numbers 1,2,3... so on.

Other values of TYPE attribute are:

Attribute	Description
Type = A	Capital letter eg. A, B, C.....
Type = a	Small letter eg. a, b, c,.....
Type = I	Uppercase Roman Numbers eg. I, II, III.....
Type = i	Lowercase Roman Numbers eg. i, ii, iii.....
Type = 1	eg. 1, 2, 3.....

- **START:** used for lists that need to start at values other than 1. START always specified in default numbers, and is completed based on TYPE before display, For example, If START =5 it would display either an 'E', 'e', 'V', 'v', or '5' based an TYPE attribute.

Nested Order List

One ordered list might contain one or more ordered list that is called as Nested Order lists.

Example: An HTML document *nested.html* shows the use of Nested Order Lists with attributes.

```
<HTML>
  <HEAD>
    <TITLE> Use of Nested Ordered Lists</TITLE>
  </HEAD>
  <BODY>
    <OL TYPE = A START =3>
      <LI> Fruits
        <OL TYPE = I>
          <LI> Apple
            <LI> MANGO
            <LI> Orange
          </OL>
        <LI> VEGETABLES
          <OL TYPE = I>
            <LI> Brinjal
            <LI> Cabbage
            <LI> Tomato
          </OL>
        </OL>
      </OL>
    </BODY>
  </HTML>
```

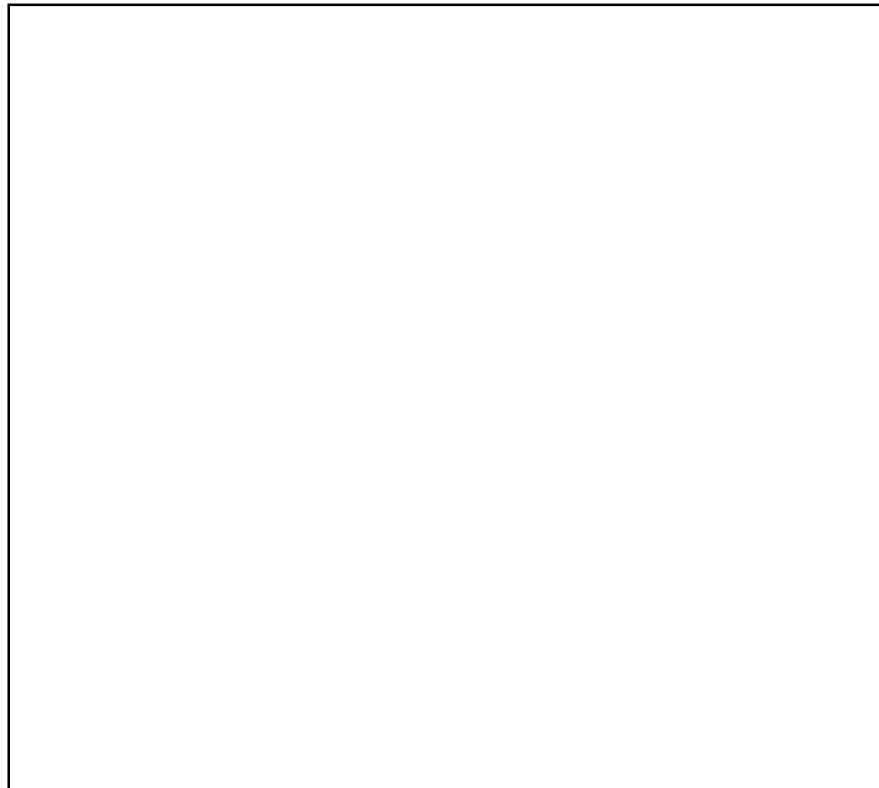


Fig. 4.8 : Displaying Nested Ordered Lists with attributes in browser

Unordered List

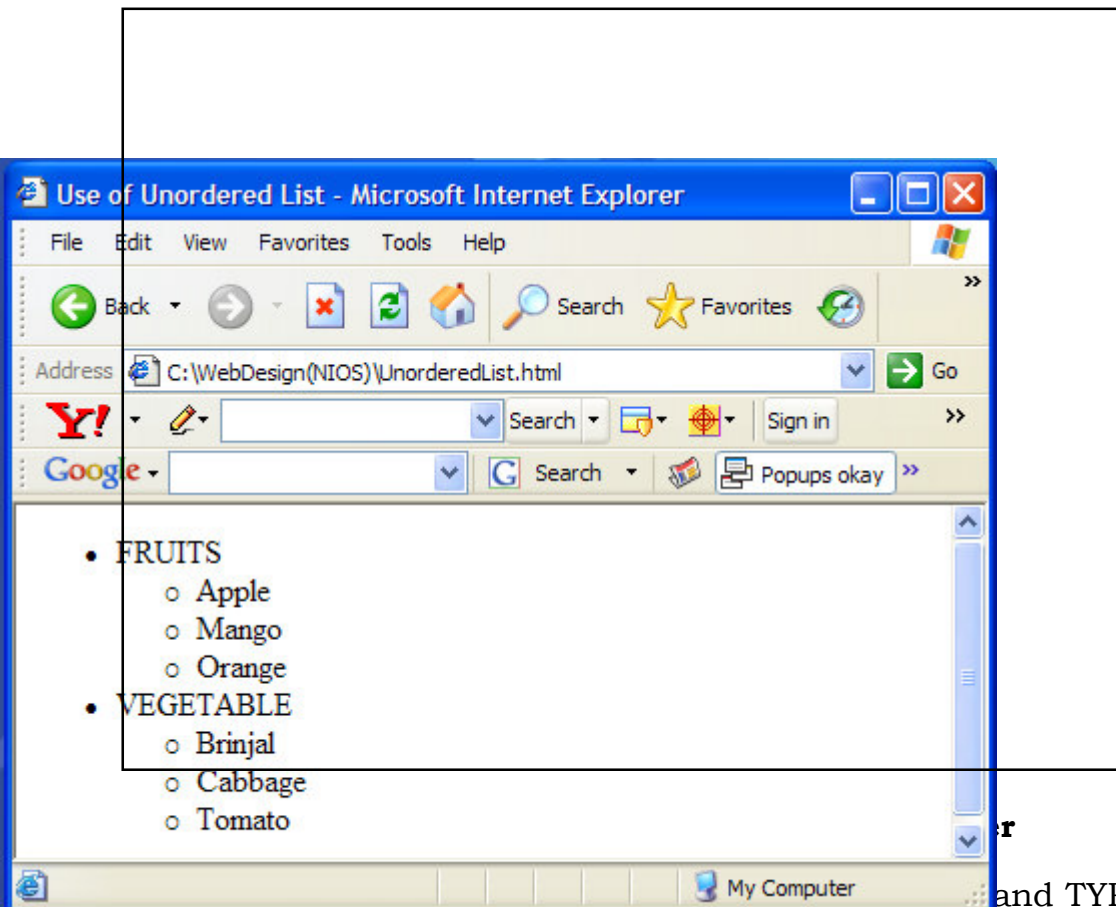
Unordered List also called as bulleted list, used to present list of items marked with bullets. An unordered list starts with in followed by (List Item) tag. Use of is very similar to (ordered list).

Example: *Use of Unordered List and Various Attributes*

```
<HTML>
  <HEAD>
    <TITLE> Use of Unordered List </TITLE>
  </HEAD>
  <BODY>
    <UL>
      <LI> FRUITS
    </UL>
```

```
<LI> Apple
<LI> Mango
<LI> Orange
</UL>
<LI> VEGETABLE
<UL>
<LI> Brinjal
<LI> Cabbage
<LI> Tomato
</UL>
</UL>
</BODY>

</HTML>
```



= CIRCLE or DISC (filled Circle used as a bullet)

INTEXT QUESTION

2. Write True or False for the following:
- (a) <break> is a line break tag.
 - (b) HTML has seven header tags <H1>.....<H7>
 - (c) The <ULS> tag is used for bulleted, unordered list.
 - (d) Special characters are not supported by HTML.
 - (e) Ordered list can be nested.
-

4.6 USING GRAPHICS IN WEB PAGE

Images can be placed in a web page by using tag. There are many image formats available today, but the most widely used among them are **gif** and **jpeg**. The gif format is considered superior to the jpeg format for its clarity and ability to maintain the originality of an image without lowering its quality. Using tools such as GIF constructor or Adobe Photoshop images can be created.

It is an empty tag (only start tag, no end tag) and is written as:

SRC – Source of the image file

image_URL – represents the image file with its location.

Example:

Here, image_URL =file:///C:/NOSlogo.GIF, it means image is available in the Hard Drive C: on the local hard disk.

Example:

Here image_URL is = http://planningcommission.nic.in/images/planimg.jpg. The image planimg.jpg, is taken from the images directory of Planning Commission Web Server 'Planningcommission.nic.in'.

If the location of the image and web page are in the same place in the same directory/path then it is simply written

This SRC attribute is mandatory for the tag.

Other attributes used with are: -

- ❑ ALIGN
- ❑ HEIGHT AND WIDTH
- ❑ VSPACE and HSPACE
- ❑ ALT
- ❑ BORDER

ALIGN: used to set the alignment of the text adjacent to the image. It takes the following values:

- ALIGN = LEFT - Displays image on left side and the subsequent text flows around the right hand side of that image
- ALIGN = RIGHT - Displays the image on the right side and the subsequent text flows around the left hand side of that image
- ALIGN = TOP - Aligns the text with the top of the image
- ALIGN = MIDDLE - Aligns the text with the middle of the image
- ALIGN=BOTTOM - Aligns the text with the bottom of the image

By default, the text is aligned with the bottom of the image

Example: Using tag with attributes

```
<HTML>
  <HEAD>
    <TITLE> Use of IMG Tag With its ALIGN Attribute</TITLE>
  </HEAD>
  <BODY>
    <P>
      <IMG SRC=NOSlogo.GIF ALIGN=TOP>
      Aligns the text with the Top of the image
    </P>
    <P>
      <IMG SRC=NOSlogo.GIF ALIGN=MIDDLE>
      Aligns the text with the Middle of the image
    </P>
    <P>
      <IMG SRC=NOSlogo.GIF ALIGN=LEFT>

      Displays image on left side and the subsequent text flows
      around the right hand side of that image. Displays image
      on left side and the subsequent text flows around the
      right hand side of that image. Displays image on left side
      and the subsequent text flows around the right hand side
      of that image.
    </P>
    <P>
      <IMG SRC=NOSlogo.GIF ALIGN=RIGHT>

      Displays image on right side and the subsequent text flows
      around the left hand side of that image. Displays image
      on right side and the subsequent text flows around the left
      hand side of that image.
    </P>
  </BODY>
</HTML>
```



Fig. 4.10 : Displaying Image with its attributes in browser

HEIGHT and WIDTH

Height and Width of an image can be controlled by using the HEIGHT and WIDTH attributes in the tag as follows:

Example: `<IMG SRC= NOSlogo.GIF HEIGHT=320 WIDTH=240>`

HSPACE and VSPACE

White space around an image can be provided by using HSPACE (Horizontal Space) and VSPACE (Vertical Space) attributes of the tag. These attributes provide the space in pixels.

Example: `<IMG SRC=NOSlogo.GIF VSPACE=30 HSPACE=25>`

ALT (Alternative Text)

This attribute is used to give alternative text that can be displayed in place of the image. This is required when the user needs to stop display of images while retrieving a document in order to make the retrieval faster, or when the browser does not support graphics. It is also used a tool tips – displaying description of the image when the mouse is over the image.

Example:

BORDER

Border around the image can be controlled by using BORDER attribute of tag. *By default image displays with a thin border.* To change the thickness or turn the border off, the value in pixels should set to BORDER attribute.

Example:

BORDER =0 to Turn the Border off

Example:

BORDER=3 to make the border thickness to 3

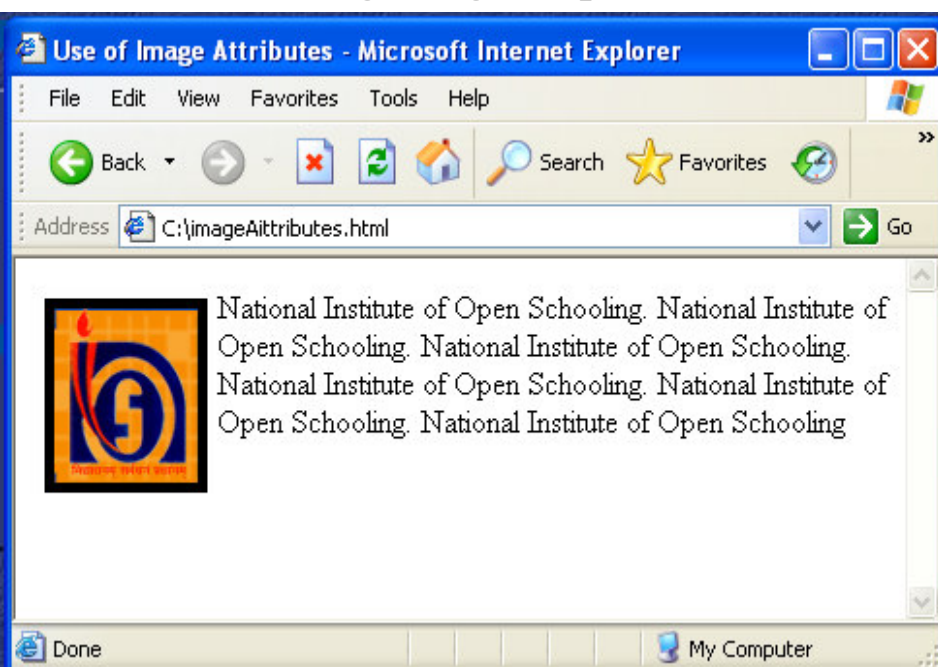
Example: Showing the use of Image Attributes

```
<HTML>
  <HEAD>
    <TITLE> Use of Image Attributes </TITLE>
  </HEAD>
  <BODY>
    <IMG SRC=NOSLogo.GIF HSPACE=5 VSPACE=5 BORDER=5 ALT=NOS-
    LOGO ALIGN=LEFT>
    National Institute of Open Schooling. National Institute of Open Schooling.
    National Institute of Open Schooling. National Institute of Open Schooling.
    National Institute of Open Schooling. National Institute of Open Schooling
  </BODY>
</HTML>
```



Fig. 4.11 : Displaying Image with its attributes in browser

Understanding Image Maps



g/linking to
licking on a
ted with that

ay be linked

RL can be of
ce. Possible
Image maps
y used with
g of multi-
site: [http://](http://www.downloadcenter.com/Web_Authoring/Image_Mapping_Tools/MapThis.html)
e created by
ware can be
center.com/

Web_Authoring/Image_Mapping_Tools/MapThis.html

4.7 WORKING WITH LINKS: <A> ANCHOR TAG

Web pages are linked to one another through Hypertext Links. Section of text or image in the HTML document can be linked to an external document or to a specific place within the same document. The text or image that provides such linkage is known as Hypertext or Hotspot.

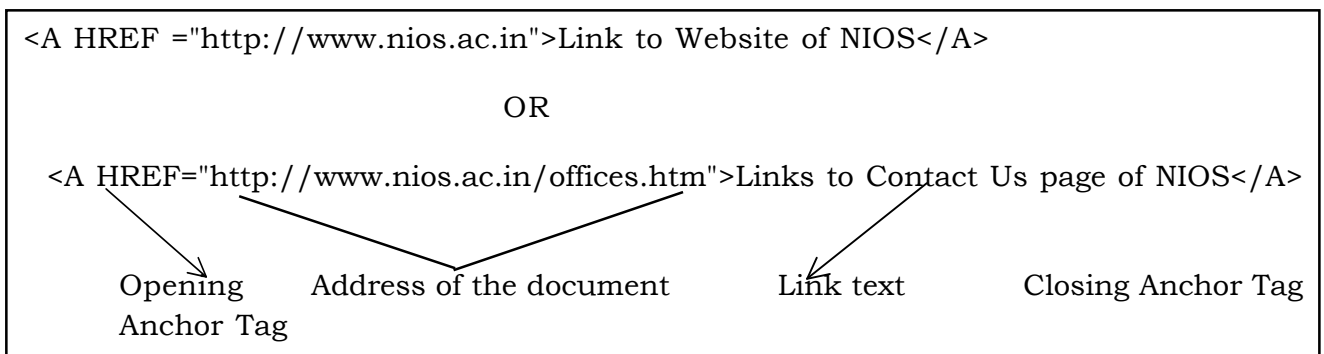
HTML provides <A> Anchor Tag to create links. The format of using anchor tag is as follows:

** Make Me The Link **

HREF (Hyper Link Reference) is a mandatory attribute used to refer the URL of the resource. URL (Uniform Resource Locator) is an address tells the browser about the file to link to. It identifies file locations (Addresses) on the web or on the local hard drive. These addresses can be those of HTML documents or elements such as images, scripts, applets and other files. It is always enclosed in quotes.

Linking a text to a web site / an external document

Example:



In the above example the link text “Links to Contact Us page of NIOS” would appear underlined and in a color different from any other text in the document to distinguish a link from normal text. Also you would find that the mouse pointer changes into a hand like symbol when taken over the hyperlink.

Linking an image to web site

An image can be linked to a web site or HTML document.

Example:

```
<A HREF ="http://www.nios.ac.in"><IMG SRC=NOSlogo.GIF  
BORDER=3></A>
```

Linking (jumping) to a specific place within the same document

Sometimes, it is required to jump different sections in the same document. For this it needs two steps, first; identify section with a name and or second; use jumps to the location using the name used.

The syntax is:

1. `<A HREF="#section_name">` link to another section of the same document `</A>`



This link text jumps to the section named with HREF on click. *The # symbol before the section name is must.*

2. `<A NAME="section_name">` Beginning of the section `</A>`

The NAME attribute is used to identify a section with a name. It is a unique identifier within the document for the anchor.

One can also jump to a specific section of different document specifying the path on HREF attribute.

Example:

Within the same document: `<A HREF="#section_name">`

Same folder, but different document: `<AHREF="document.html#section_name">`

Different folder, different document:`<A HREF="folder/document.html#section_name">`

A different server:

```
<A HREF="http://www.nios.ac.in/foldername/document.html  
#section_name>
```

Example: *Use of Anchor Tag*

```

<HTML>
<HEAD><TITLE> Use of Anchor Tag</TITLE></HEAD>
<BODY>
<H2 align="center"><U><FONT COLOR="BLUE">National Institute of Open
Schooling</FONT> </U></H2>
<A HREF="http://www.nios.ac.in"><IMG SRC="NOSlogo.GIF" alt="NIOSLOGO"
align="left"></A>

```

The success of open learning and distance education very much depends on the harnessing of the new and latest technology. The emerging Internet and Web Technology helps in effective dissemination of information. The web site is a demand source of latest information. One can access NIOS website by clicking on http://www.nios.ac.in OR on Clicking NIOS logo <p></p><p></p><p></p><p></p>

<p><i><u>Internet and Web Technology</u></i></p>

<p>Various Terms used in Internet are:

1. HTML (Hypertext Markup Language)

2. WWW (World Wide Web)

3. Web site **(Linking within the document)**

4. Web page

5. URL(Uniform Resource Locator)

6. HTTP(Hypertext Transfer Protocol)

7. Hyperlink

</P>

<P></P><P></P><P></P>

HTML (Hypertext Markup Language) <hr align="left" width="24%" noshade>
 HTML (Hypertext Markup Language), Language used to create document on the World Wide Web. It is simply a collection of certain key words called Tags that helps to write the document. <p>click http://en.wikipedia.org/wiki/Html to read more </p><p></p> WWW(World Wide Web<hr align="left" width="17%" noshade> <p>The World Wide Web ("WWW" or simply the "Web") is an information space in which the items of interest, referred to as resources, are identified by global identifiers called

Uniform Resource Identifiers (URIs). The term is often mistakenly used as a synonym for the Internet, but the Web is actually a service that operates <I>over</I> the Internet.</p>

<p>clickhttp://en.wikipedia.org/wiki/Www to read more</p>

</p><p></p><p></p>

Web site <hr align="left" width="6%" noshade>

A **website, web site** or **WWW site** (often shortened to just **site**) is a collection of web pages, typically common to a particular domain name or sub-domain on the World Wide Web on the Internet.

</BODY>

</HTML>

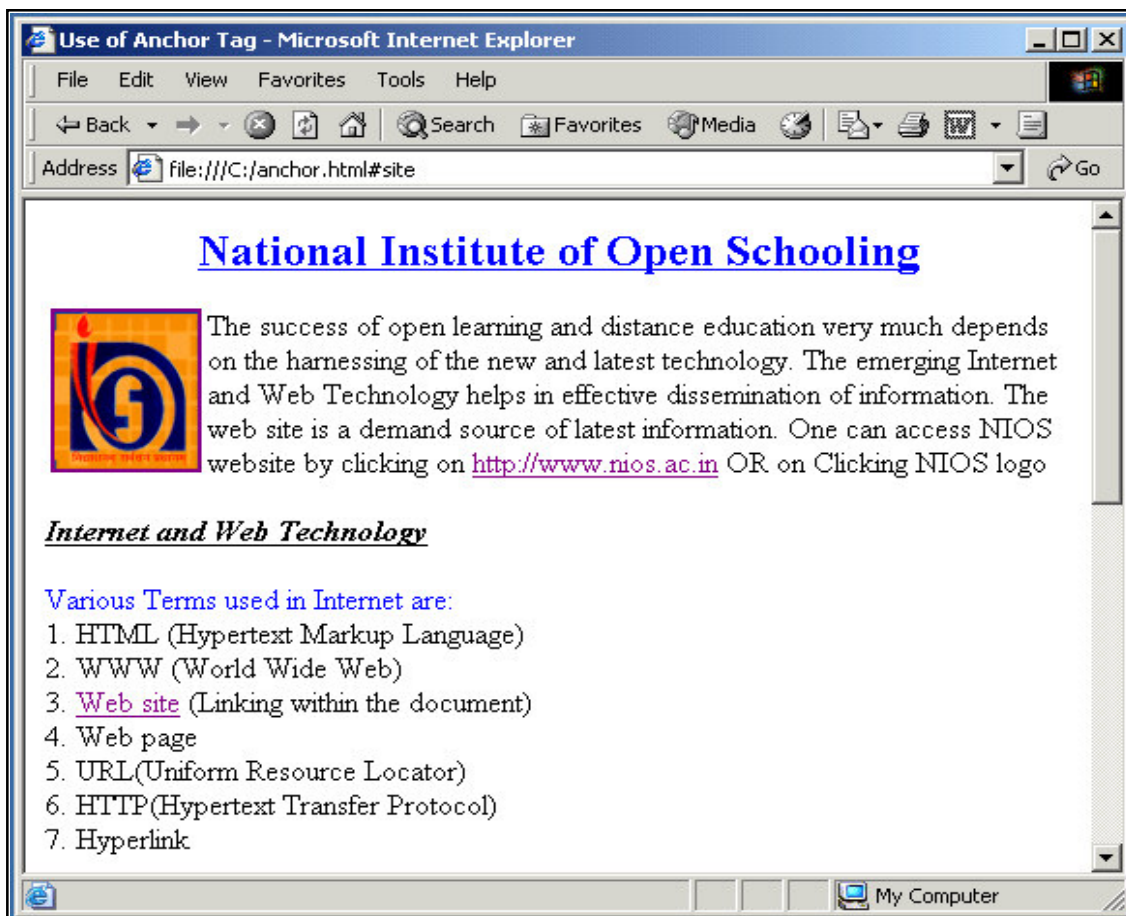


Fig. 4.12 : Display of an example using Anchor Tag <A> in Browser

INTEXT QUESTION

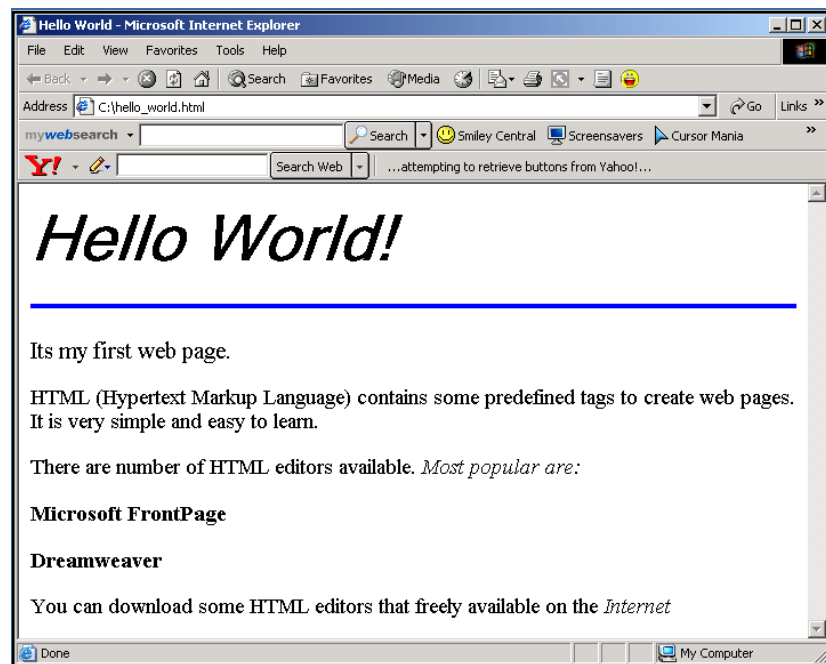
3. Fill in the blanks:
- (a) HTML _____ a web page to include an image.
 - (b) Web pages are linked to another through _____ links.
 - (c) _____ tag is used to add images to HTML documents.
 - (d) Border around the image can be controlled by using _____ attribute of image tag.
-

4.8 WHAT YOU HAVE LEARNT

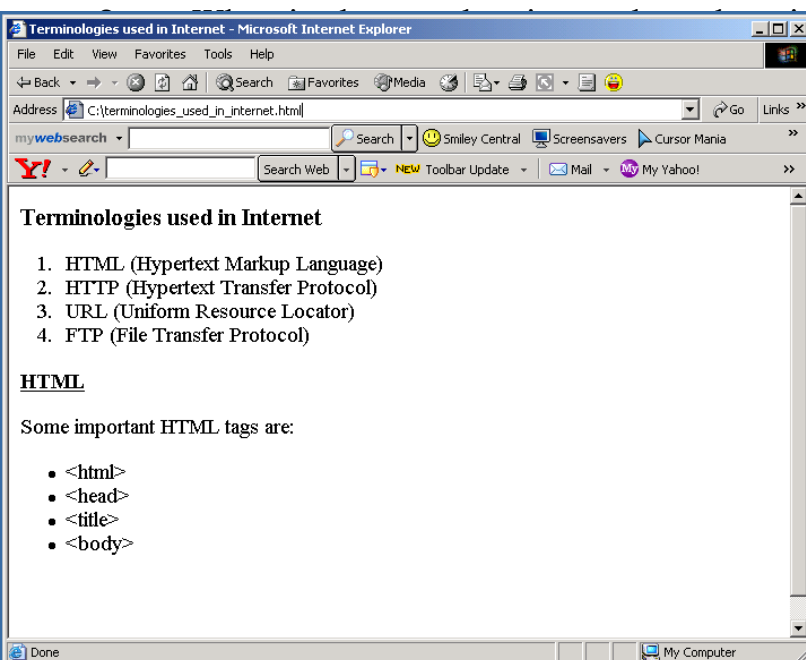
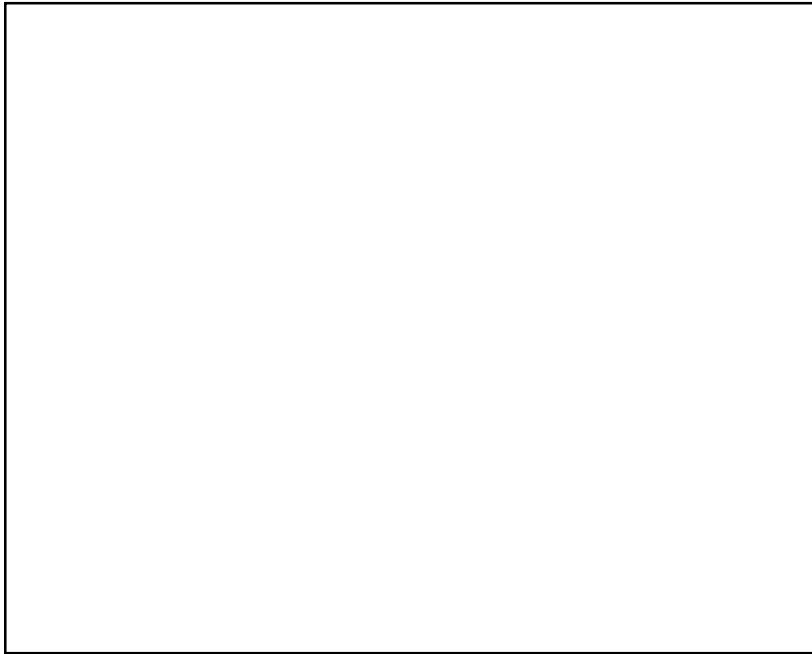
In this lesson you learnt how to create a HTML document. There are three essential tags for creating a HTML document, namely, HTML tag, HEAD tag and BODY tag. In addition, you learnt how to format a webpage using section heading tags, hyperlinks, graphics in HTML document and image links.

4.9 TERMINAL QUESTIONS

1. Create a HTML file for the following web page as shown in figure:



2. Write a HTML file to create the following web page:

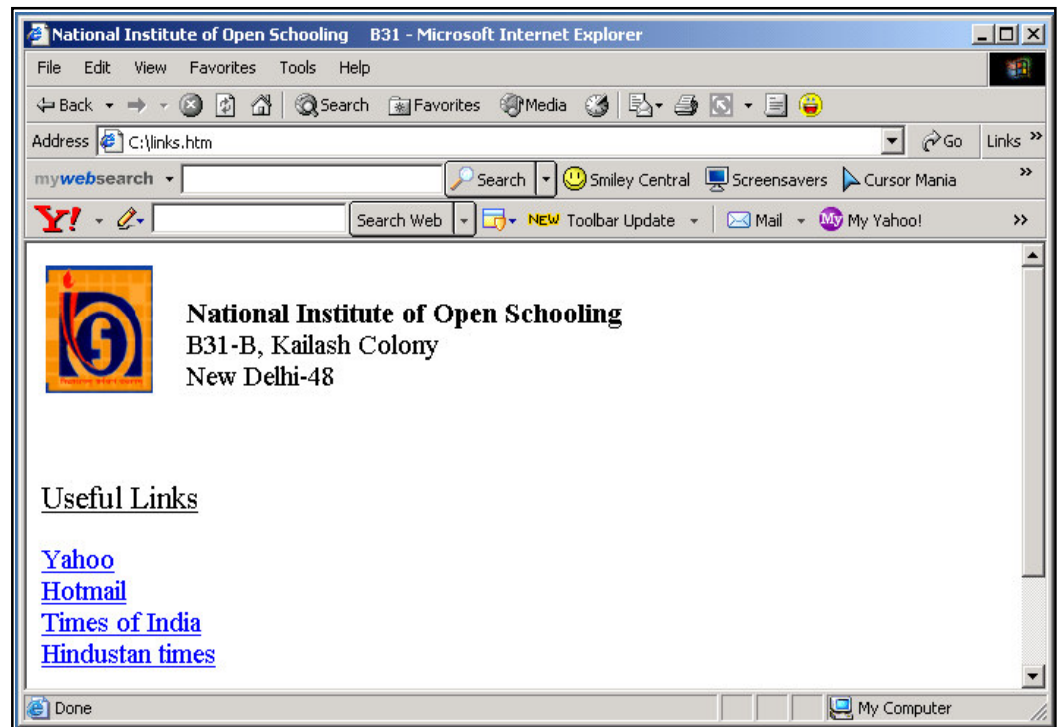


images in a web page?

Associate with this type of

the method to link a
document?

web page:



N.B: Image should be linked to <http://www.nios.ac.in>. The Text Yahoo, Hotmail, Times of India, Hindustan times should link to <http://www.yahoo.com>,

<http://www.hotmail.com>, <http://www.timesofindia.com> and <http://www.hindustantimes.com> respectively.

4.10 FEEDBACK TO INTEXT QUESTIONS

1. (a) True (b) True
(c) False (d) True
 2. (a) True (b) False
(c) True (d) False
(e) True
 3. (a) allows (b) Hypertext
(c) (d) BORDER
-

5

Advanced HTML

5.1 INTRODUCTION

An effective way to organize web documents, visually, and also logically, by dividing the page into different parts is the necessity of the website today. In each part of the document presentation of information in a well design layout with proper placing of text, images, audio and video is also very important

Designing of the website of your choice may not be liked by others. So you should keep track of visitor's choice, getting their views, opinion and suggestion through a feedback form. Not only you need to capture the information about your site but also you may need to get some visitor's information for business purpose.

The creation of document with different layouts, dividing the page into different parts and getting user information can be possible by using some advance HTML elements such as table, frames and forms in your web page.

5.2 OBJECTIVES

After going through this lesson, you would be able to:

- create Tables and use of its various attributes
-

- work with Frames and its attributes
- develop sample web page using Nesting Frames and Table
- use forms to accept data

5.3 TABLES <TABLE>

Tables are used to display data in Tabular format, containing rows and columns, on the screen.

The HTML tag <TABLE> is used to define tables. The table element can contain the following:

- <CAPTION>: It is used to specify the caption (Label) for the table. The CAPTION element, by default is center-aligned at the top of the Table. It's ALIGN attribute that takes value **left, right, center** can be used to align the caption. *The <CAPTION> tag should appear inside <TABLE>.*
- <TR>: Table row, is to specify the row in the table. *It holds <TH> Table Heading and <TD> Table Data.*
- <TH>: Table Header, is used for giving Heading to Table. *By default header elements contents are in bold font and center-aligned.*
- <TD>: Table Data, *within the row you create columns by <TD> tag.* The Table data can consist of lists, images, forms and other element. The TD is a true container that can hold other HTML elements, even more tables.

Example: A Simple table in HTML

```
<HTML>
  <HEAD>
    <TITLE> A SIMPLE TABLE IN HTML </TITLE>

  </HEAD>
  <BODY>
    <TABLE>
```

```
<CAPTION> TEST TABLE </CAPTION>
<TR>
    <TH> HEADING 1</TH>
    <TH> HEADING 2</TH>
    <TH> HEADING 3</TH>
</TR>
<TR>
    <TD> CELL 1 </TD>
    <TD> CELL 2 </TD>
    <TD> CELL 3 </TD>
</TR>
<TR>
    <TD> CELL 4 </TD>
    <TD> CELL 5 </TD>
    <TD> CELL 6 </TD>
</TR>
</TABLE>
</BODY>
<HTML>
```

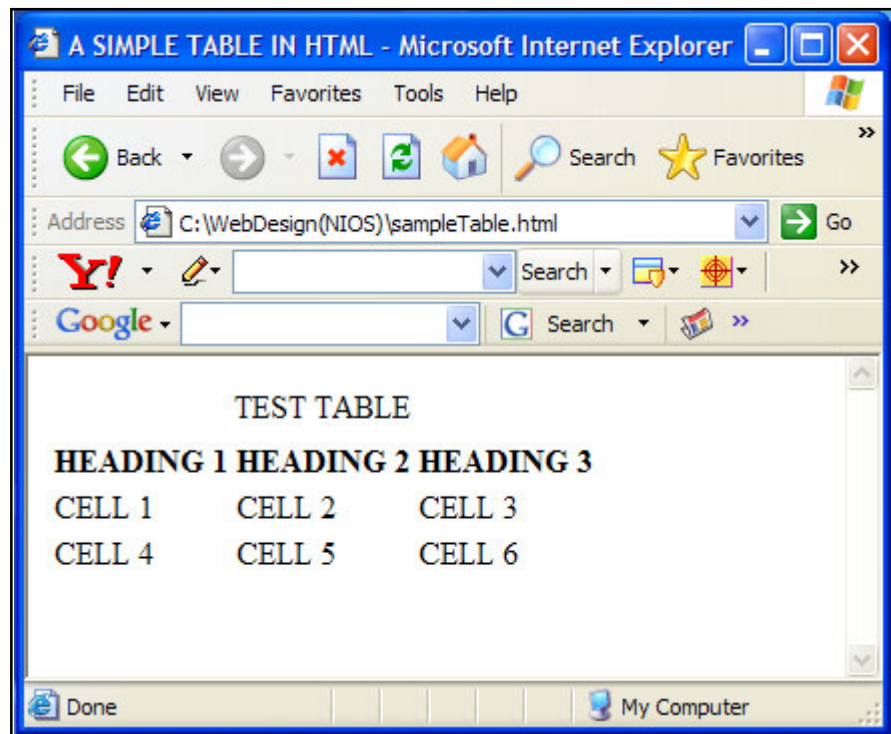


Fig. 5.1 : A simple Table without border view in browser

Attributes of <TABLE>

- **BORDER:** used to draw borders around all the Table cells. By default, tables are shown without borders i.e. **BORDER=0**. The size of border can set by assigning an integer value. For example **BORDER=3**, gives table a three pixel border.
 - **ALIGN:** used to align a table relative to windows border. It can set to **left, right or center**.
 - **CELLSPACING:** used to set the space between the cells in a table. It takes value in pixel.
 - **CELLPADDING:** used to set the space between the cell data and cell wall in a table. It takes value in pixel.
 - **WIDTH:** used to set the width of the table, as either an absolute width in pixels, or a percentage of the document width. For example: **WIDTH=<width in pixel or percent>**
 - **BGCOLOR:** set the background color of the table. For
-

example: BGCOLOR=red

- BORDERCOLOR: sets the color of the border of the table.
For example: BORDERCOLOR=BLUE

Example: Use of <TABLE> attributes

```
<HTML>
  <HEAD><TITLE> A SIMPLE TABLE IN HTML </TITLE></HEAD>
  <BODY>
    <TABLE BORDER=3 BGCOLOR=BLUE BORDERCOLOR=YELLOW
CELLPADDING=5 CELLSPACING=5 ALIGN=CENTRE>
    <CAPTION> TEST TABLE </CAPTION>
      <TR>
        <TH> HEADING 1</TH>
        <TH> HEADING 2</TH>
        <TH> HEADING 3</TH>
      </TR>
      <TR>
        <TD> CELL 1 </TD>
        <TD> CELL 2 </TD>
        <TD> CELL 3 </TD>
      </TR>
      <TR>
        <TD> CELL 4 </TD>
        <TD> CELL 5 </TD>
        <TD> CELL 6 </TD>
      </TR>
    </TABLE></BODY></HTML>
```

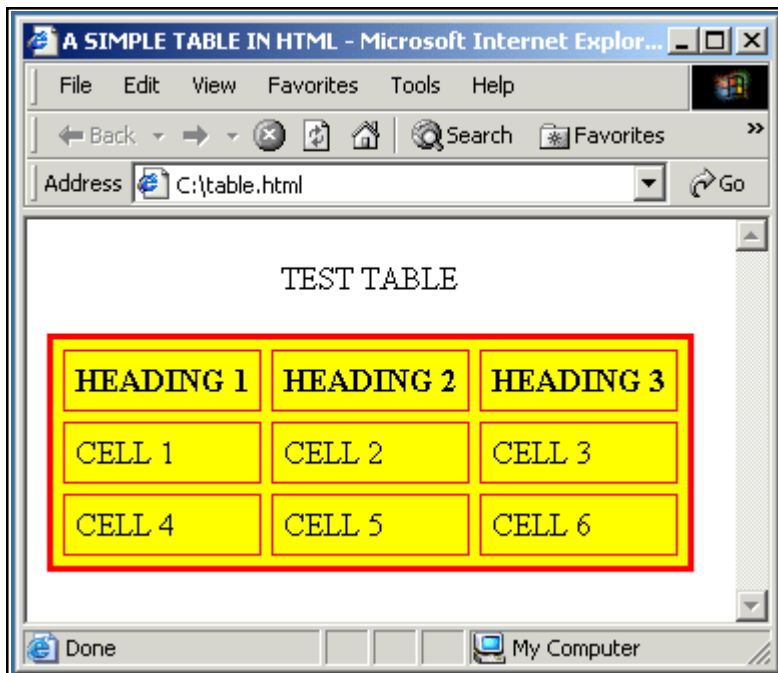


Fig. 5.2 : View of Table in Browser

Attributes of <TR>

- **ALIGN:** Align the text inside the table cells to the **left**, **right** or **center**.

For Example: `<TR ALIGN=left>`

- **VALIGN:** Align the text within the cell(s) to top, bottom or centered vertically to the cell. The values used are **top**, **middle** and **bottom**.

For Example: `<TR VALIGN=middle>`

- **BGCOLOR:** Sets the background color of the row.

For Example: `<TR BGCOLOR=yellow>`

- **BORDERCOLOR:** Sets the border color of the row.

For Example: `<TR BORDERCOLOR =blue>`

Attribute of <TD>

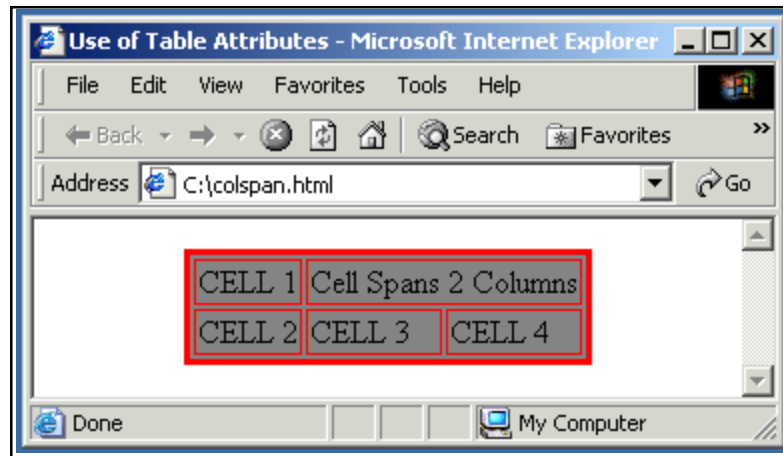
All the attributes of `<TR>` - `ALIGN`, `VALIGN`, `BGCOLOR`, `BORDERCOLOR` can also be used with `<TD>` element. Other

attributes of <TD> are:

- **WIDTH:** It is used to describe the desired width of the cell, either as an absolute width in pixels or as a percentage of table width.
For Example: - <TD width=5%> Cell 1 </TD>
- **HEIGHT:** Specifies the height of the cell.
For Example: - <TD HEIGHT=2%> CELL 1 </TD>
- **NOWRAP:** Prevent the browser from wrapping the content of the cell.
- **COLSPAN:** - Specifies the number of columns the cell can span. *The default COLSPAN for any cell is 1.*

Example: Use of COLSPAN

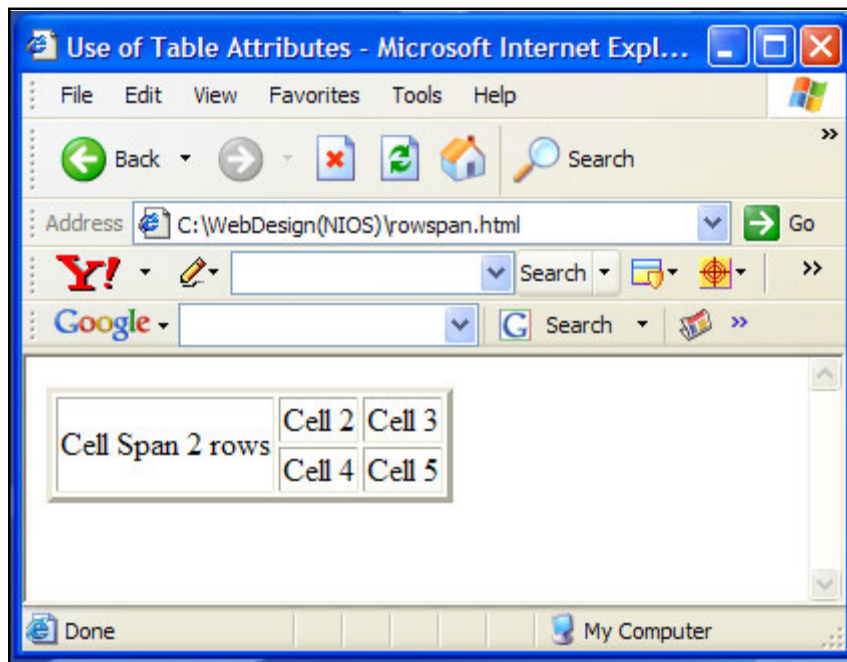
```
<HTML>
  <HEAD><TITLE>Use of Table Attributes</TITLE></HEAD>
  <BODY>
    <TABLE BORDER=3 BGCOLOR=GRAY BORDERCOLOR=RED
ALIGN=CENTER>
      <TR>
        <TD>CELL 1 </TD>
        <TD COLSPAN=2>Cell Spans 2 Columns</TD>
      </TR>
      <TR>
        <TD>CELL 2 </TD>
        <TD>CELL 3</TD>
        <TD>CELL 4</TD>
      </TR>
    </TABLE>
  </BODY>
</HTML>
```

**Fig. 5.3**

ROWSPAN: Specifies the number of rows the cell can span. *The default ROWSPAN for any cell is 1.*

Example: Use of ROWSPAN

```
<HTML>
  <HEAD><TITLE>Use of Table Attributes</TITLE></HEAD>
  <BODY>
    <TABLE BORDER=3>
      <TR>
        <TD ROWSPAN=2>Cell Span 2 rows </TD>
        <TD >Cell 2</TD><TD>Cell 3</TD>
      </TR>
      <TR>
        <TD>Cell 4 </TD>
        <TD>Cell 5</TD>
      </TR>
    </TABLE></BODY></HTML>
```

**Fig. 5.4****Attribute of <TH>**

All the attributes of <TD> can also be used with <TH>.

INTEXT QUESTION

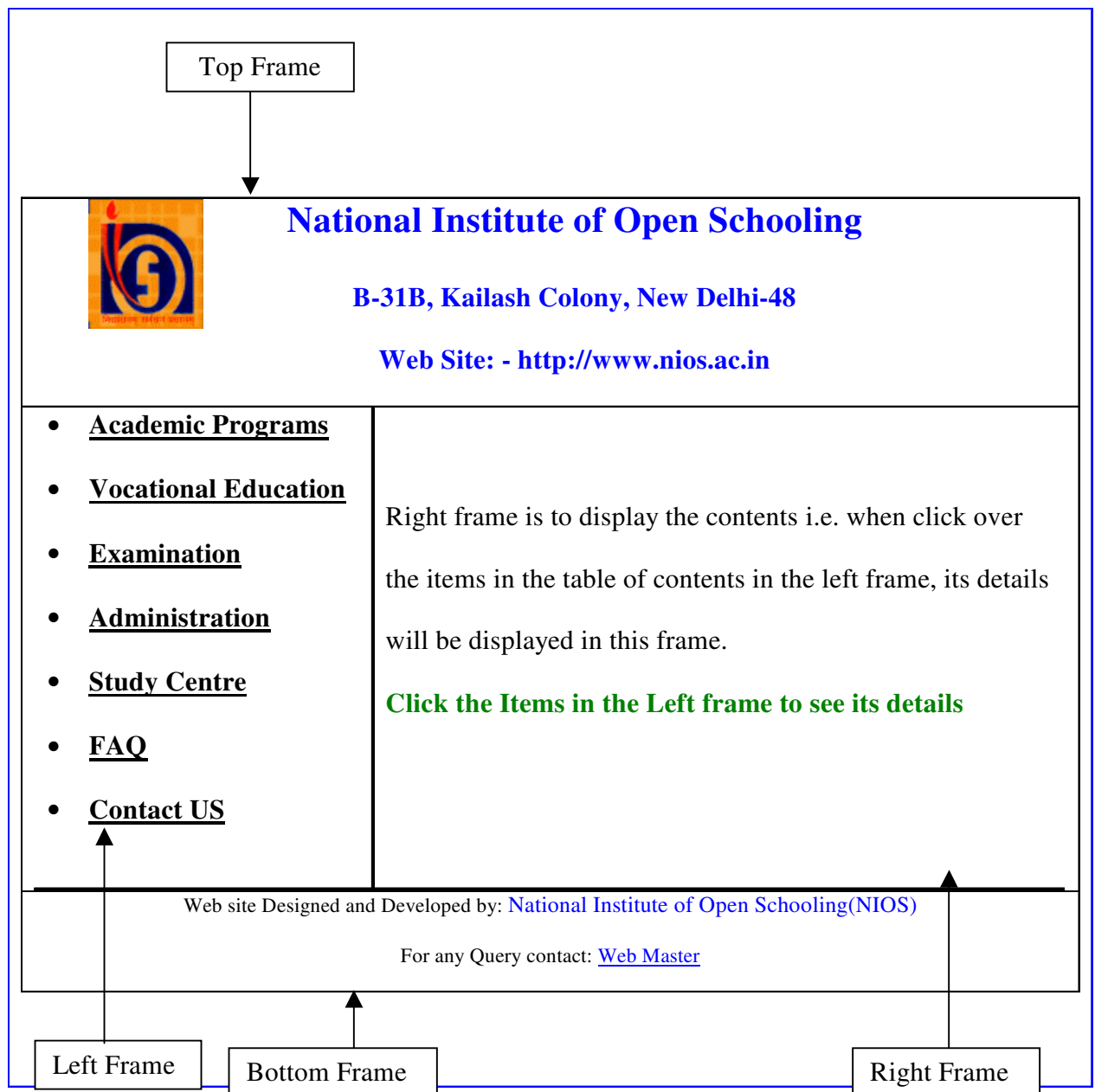
1. Write True or False for the following:
 - (a) WIDTH specifies the height of a cell.
 - (b) The BORDER attribute of the <TABLE> element can be used to create borderless tables.
 - (c) Table in HTML are defined row by row. The <TR> tags define a new row.

5.4 FRAMES

Frames allow the user to create the web pages in a different manner from the usual way. It provides an effective way to organize your HTML documents in one screen. By Frames, the browser screen divides into a number of panels, which might be

completely independent; for instance, you might have seen screen that contains top frame to hold banner or title graphics, left frame - contains table of contents that links to different documents, right frame - to display the contents of the documents, when click over the item in the table of contents in left frame and a bottom frame - to display some copyrights, contacts information etc.

Example:



To implement frames, it needs more than one document. The MASTER document contains the frame layout that determines just what users see when they access the frame. There is not any content within the master document instead, it contain one or more FRAMESET element that define the frame layout, and FRAME element that specify just which document are supposed to be loaded into which frame. The actual documents are separate individual pages.

Frames documents are generated by:

- FRAMESET Tag
- FRAME Tag

<FRAMESET> Tag

Frameset tag defines the number of columns and rows in a frameset.

Example:

```
<FRAMESET rows="20%, 70%, 10%">
```

The screen divide into three rows 20% row is on top, 70% row is in the middle, and 10% row is on the bottom.

```
<FRAMESET cols="20%, 80%">
```

The screen divides into two columns one 20% on left and other 80% on right.

The value assigned to rows and cols are in:

Percentage: - percentage of an available window space.

Pixels: - Absolute number of screen pixels.

Number and Asterisk: - Adjust the size of the specified column (1, 2, 3 and so on) to take the remaining space.

Example:

```
<FRAMESET COLS="290, 2*">
```

This says, "It gives the first column a width of 290 pixels and the

second column what ever is left"

<FRAME> Tag

By using <FRAMESET>, you can only define rows and columns all you want, but, nothing shows up in them without the <FRAME> tag. The <FRAME> tag enables you to specify just what appears in row or column you defined.

The FRAME tag is not a container tag, *it is an empty tag*, and so it has no matching end tag.

Example: <FRAME SRC="contents.html">

SRC (Source): Specifies the Web page that you want to display in the frame.

Other attributes of <FRAME>:

- NAME: It enables you to name a frame, so that, it can function as the target for a link.

<FRAME NAME="content">

- FRAMEBORDER: Specifies whether or not the frames has a border. You can choose 1(yes) or 0 (no). *The default is 1.*

Example: <FRAME FRAMEBORDER="0">

- MARGINWIDTH: Add a left and right margin to the frame. You must specify this in pixels. The value must be greater than 1. *The default is 1.*

Example: <FRAME MARGINWIDTH="10">

- MARGINHEIGHT: Add a top and bottom margin to the frame. You must specify this in pixels. The value must be greater than 1. *The default is 1.*

Example: <FRAME MARGINHEIGHT="10">

- NORESIZE: Fixes the frame so that it cannot be resized.
 - SCROLLING: Select scrolling option. It can take the values **auto** (the default setting) - displays scroll bars only when the window is not large enough to accommodate the frame
-

yes - always display scroll bars, no - never displays scroll bars.

Example: `<FRAME SCROLLING="no">`

NESTING FRAMES

The FRAMESET tag can be nested inside other FRAMESET tag. Nesting enables you to create complex screen designs, with frames positioned within frames.

Example:

```
<FRAMESET COLS="150,2*">
  <FRAME SRC="frame1.html">
  <FRAMESET ROWS="150,2*">
    <FRAME="frame2.html">
    <FRAME="frame3.html">
  </FRAMESET>
</FRAMESET>
```

The first FRAMESET element defines a document with two columns. The first column is 150 pixels wide; the second column takes up the remaining space. In first frame the frame1.html page will be displayed. The second FRAME holds another FRAMESET. It divides this frame into two rows, one 150 pixels high and another sized with whatever is left the window space.

Hitting The Target (Targeted Frames)

If you put a link in a framed document it works just like any other hyperlink. It takes the user out of the current document on a one-way trip to another web document.

In order to make a linked document appear within one of the frames you have defined you need to do two things.

1. **Give a name to the frame** in which you want document to appear. You can give a name to the frame with the NAME attribute.

Example: `<FRAME NAME="content">`

2. Specify the name of the frame, where the document will be displayed **with TARGET attribute of <A> tag.**

Example:

Some reserved target names used for different purpose are:

_blank: Opens the linked document in a new window

_self: Loads the linked document into the very same frame that contains the links

_parent: Loads the linked document into the next frame up in the frame list

_top: Loads the document into the full window, canceling all frames effects

A complete example of using FRAMES

(This example is with respect to the frame design at the beginning of the topic)

main.html(Master Document - contains the frame layout)

```
<html>
  <head>
    <title>Using Frames in HTML</title>
  </head>
  <frameset rows="32%,45%,23%" frameborder="NO" border="0"
framespacing="0">
    <frame src="banner.html" name="topFrame" scrolling="NO" noresize>
    <frameset cols="35%,65%" frameborder="NO" scrolling="AUTO">
      <frame src="toc.html" name="leftFrame" scrolling="AUTO"
noresize>
      <frame src="contents.html" name="mainFrame">
```

```

    </frameset>

    <frame src="footer.html" name="bottomFrame" scrolling="NO"
noresize >

    </frameset>
</html>

```

banner.html (this is the top frame where your banner display)

```

<html>
  <head>
    <title>This is the Banner Page</title>
  </head>
  <body>
    <table width="100%" border="0">
      <tr>
        <td width="9%"><a href="http://www.nios.ac.in"></a></td>

        <td width="55%" align="center"><font color="blue"
size="+2">National Institute of Open Schooling</font><br>B-31B, Kailash
Colony, New Delhi-48<br>    Web Site: - <a
href="http://www.nios.ac.in">http://www.nios.ac.in</a>
        </td>
        <td width="36%">&nbsp;</td>
      </tr>
      <tr>
        <td width="100%" height="42" colspan=3><hr noshade></td>
      </tr>
    </table></body></html>

```

Output of *banner.html*:



National Institute of Open Schooling

B-31B, Kailash Colony, New Delhi-48

Web Site: - <http://www.nios.ac.in>

N.B: The image source NIOSlogo.GIF assumed as present in the working directory where your banner.html present.

toc.html (this is the left frame, called as table of contents page)

```
<html>
  <head>
    <title>Table of Contents Page</title>
  </head>
  <body>
    <ul>
      <li><a href=http://www.nios.ac.in/AcadPC.htm target="mainFrame">
Academic Programs</a></li>
      <li><a href=http://www.nios.ac.in/vocation.htm target="mainFrame">
Vocational Education </a></li>
      <li><a href=http://www.nios.ac.in/exa-sys.htm target="mainFrame">
Examination </a></li>
      <li><a href=http://www.nios.ac.in/admin.htm target="mainFrame">
Administration </a></li>
      <li><a href=http://www.nios.ac.in/sty-cen.htm target="mainFrame">
Study Centre </a></li>
      <li><a href=http://www.nios.ac.in/FAQ.htm target="mainFrame">FAQ
</a></li>
      <li><a href=http://www.nios.ac.in/offices.htm target="mainFrame">
Contact US </a></li>
    </ul>
  </body>
</html>
```

Output of *toc.html*:

- **Academic Programs**
- **Vocational Education**
- **Examination**
- **Administration**
- **Study Centre**
- **FAQ**
- **Contact US**

contents.html (this is the right frame where the contents of the page display)

```
<html>
  <head>
    <title>Page to display the contents</title>
  </head>
  <body>
    <p>&nbsp;</p>
    <p><font size="2">Right frame is to display the contents i.e. when click
over the
    items in the table of contents in the left frame, its details will be displayed
in this
    frame.<font color="green"><br><b>Click the Items in the Left frame to see
its
    details</b></font></p>
  </body>
</html>
```

Output:

Right frame is to display the contents i.e. when click over the items in the table of contents in the left frame, its details will be displayed in this frame.

Click the Items in the Left frame to see its details

footer.html (this is the bottom frame where your footer page display)

```
<html>
  <head>
    <title>Page to display Footer</title>
  </head>
  <body>
    <hr noshade>
    <p align="center"><font size="-2">Web site Designed and Developed by:
    <font color="blue" size="2"> National Institute of Open Schooling</font><br>
    For any Query contact: <a href="webmaster@nios.ac.in">Web
Master</a></font>
    </p>
  </body>
</html>
```

Output:

Web site Designed and Developed by: [National Institute of Open Schooling](#)

For any Query contact: [Web Master](#)

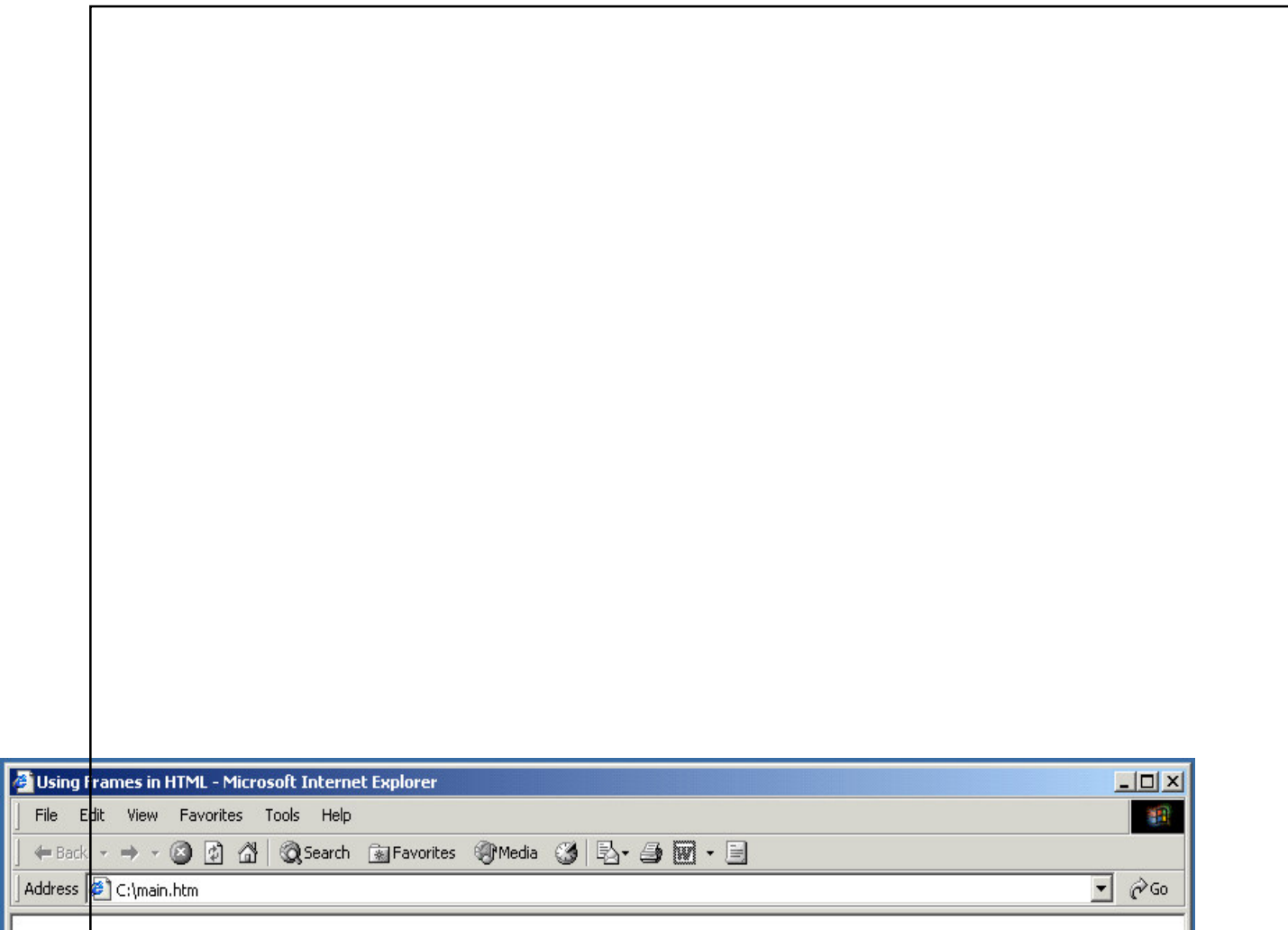


Fig. 5.5 : Viewing Master Document main.html in browser

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Web Site: - <http://www.nios.ac.in>



- [Academic Programs](#)
- [Vocational Education](#)
- [Examination](#)
- [Administration](#)
- [Study Centre](#)
- [FAQ](#)
- [Contact US](#)

Right frame is to display the contents i.e. when click over the items in the table of contents in the left frame, its details will be displayed in this frame.

Click the Items in the Left frame to see its details

Web site Designed and Developed by: [National Institute of Open Schooling](#)

For any Query contact: [Web Master](#)

5.5 FORMS: <FORMS>.... </FORMS>

Forms are used in HTML for getting inputs from the user. It can be a registration form, feedback form, order form and so on.

To help the user in data entry, form has components; text fields, radio buttons, check boxes, list boxes and so on. When data entry is complete the user submit the form by clicking the submit button on the page. On submit, the data send to server for processing. The processing is done through CGI Scripts - PHP, ASP, or servlet etc. This CGI scripts resides at the server side. After the user fills the from and click the submit button the data passes either through method POST (used to pass large amount of data) or GET (used to pass small amount of data, passed along with the URL) to the server side script that then handles data and perform appropriate action.

The Syntax of the form tag is:

<FORM>.....</FORM>

Attributes of <FORM>

- ACTION: Specify the location to which the content of the form are submitted. It's generally a URL of the CGI scripts.
- METHOD: It specifies the format in which the data send to the script. It can take two values:
 - GET: The data submitted to CGI script is displayed in browser address bar for transfer.
 - POST: Important data are submitted through post where data not display in browser address bar, during transfer.

Syntax:

```
<FORM METHOD="VALUE" ACTION="URL">  
</FORM>
```

Form Components

The <INPUT> Tag

This is an *empty tag*, no end tag. It is used to add graphical user components such as text fields, password fields, check boxes, radio buttons, reset buttons and submit buttons in the form.

Attributes of <INPUT>

- **NAME:** It defines name for the form components. This field is required for all the types of input except submit and clear.
- **SIZE:** Specifies the size of the input field in number of characters, used with text or password field.
- **MAXLENGTH:** Specifies maximum number of characters that can be entered into a text or password field.
- **VALUE:** For a text or password field, it defines the default text displayed. For a check boxes or radio button, it specified the value that is returned to the server if the box or button is selected. For submit and reset buttons, it defines the label of the button.
- **CHECKED:** Sets a checkbox or radio button to 'on'.
- **TYPE:** Set the type of input field.

It can take following values:

- **TEXT** - used for single line text field.

Example:

```
<INPUT TYPE= "TEXT" NAME= "First Name" SIZE= "30"  
MAXLENGHT="50">
```

- **PASSWORD** - Same as TEXT, but entered text appear as "*" characters
-

Example:

```
<INPUT TYPE="PASSWORD" NAME="pwd" SIZE="50"
MAXLENGTH="25">
```

- **TEXT AREA** - It is used for multiple lines text field

Example: <INPUT TYPE= "TEXT AREA">

- **RADIO** - It is used for attributes that accepts a single value from a set of alternatives. Each radio button field in the group should be given the same name. Only the selected radio button in the group generates a name-value pair in the submitted area. A radio button requires an explicit VALUE attribute.

Example:

```
<INPUT TYPE=RADIO" NAME="CITY" VALUE="NEW
DELHI">INDIA
```

```
<INPUT TYPE="RADIO" NAME="CITY"
VALUE="KARACHI">PAKISTAN
```

One can select a default option by mentioning the CHECKED value within the tag.

```
<INPUT TYPE=RADIO" NAME="CITY" VALUE="NEW
DELHI">INDIA
```

- **SUBMIT** - This creates a button that submits the form. The user can use VALUE attribute to provide a label to the button. On submit, the data submitted to the scripts specified with the ACTION attribute of the <FORM> Tag.

Example:

```
<INPUT TYPE="SUBMIT" VALUE="CLICK ME TO SUBMIT
DATA">
```

- **RESET** - This creates a button, when selected, resets the
-

value of all the fields in the form to their initial values. One can set the label of RESET button by using VALUE attribute.

Example: `<INPUT TYPE="RESET" VALUE="SET TO INITIAL">`

- HIDDEN - This creates an invisible field, but the content of the field are sent with the submitted form.

Example: `<INPUT TYPE = "HIDDEN">`

The <SELECT> Tag

This is a *container tag*, allows user to select one of the sets of alternatives described by textual labels. *Every alternatives is represented by <OPTION>, an empty tag.*

Attributes of <SELECT>

- MULTIPLE: Allows selecting more than item from the list.

Example: `<SELECT MULTIPLE>`

- NAME: Specifies the name that will be submitted as a name-value pair.
- SIZE: Specifies the number of usable items. By default *size=1* - the *SELECT* element treated as pull down menu. For size more than one, *SELECT* element treated as a list.

Example:

```
<SELECT NAME="COUNTRY">
<OPTION> INDIA
<OPTION> USA
<OPTION> JAPAN
</SELECT>
```

The <OPTION> Tag

An Empty tag `<OPTION>` can only be used within `<SELECT>`. Each item in `<SELECT>` is represented by `<OPTION>`.

Attributes of <OPTION>

- **SELECTED:** This attribute indicates that option is initially selected.

Example:

```
<SELECT NAME="COUNTRY">
```

```
<OPTION SELECTED> INDIA
```

```
<OPTION> USA
```

```
</SELECT>
```

- **VALUES:** This attribute indicates the value of the option selected.

Example: <OPTION VALUE="INDIA"> INDIA

Example: *Feedback Form*

```
<html>
  <head>
    <title> Use of Form and its components in Feedback form</title>
  </head>
  <body>
    <form action="" method="post" name="form1">
      <p>Your Feedback/Suggestion are most valuable to improve our
course curriculum. <br>
      Please fill out the following information.</p>
      <table width="45%" border="2" bordercolor="yellow">
        <caption align="left"><b><U>Feedback Form</U></b></caption>
        <tr>
          <td width="30%">Last Name: </td>
          <td width="70%"><input type="text" name="textfield1"></td>
        </tr>
      </table>
    </form>
  </body>
</html>
```

```
<td>Middle Name: </td>
<td><input type="text" name="textfield2"></td>
</tr>
<tr>
<td>First Name: </td>
<td><input type="text" name="textfield3"></td>
</tr>
<tr>
<td>City:</td>
<td>
<select name="select">
<option>New Delhi</option>
<option selected>Bombay</option>
<option>Culcutta</option>
<option>Madras</option>
<option>Banglore</option>
<option>Hyderabad</option>
</select></td>
</tr>
<tr>
<td>State:</td>
<td>
<select name="select">
<option>AP</option>
<option>MP</option>
<option>Karnatak</option>
<option>Tamilnadu</option>
<option selected>Maharashtra</option>
</select></td>
</tr>
```

```
<tr>
  <td>Address:</td>
  <td><textarea name="textarea"></textarea></td>
</tr>

<tr>
  <td>Mail ID: </td>
  <td><input type="text" name="textfield4"></td>
</tr>
</table>

<p>What are the topics that you find needs improvement.<br>
  <input type="checkbox" name="checkbox" value="checkbox"> Internet
  and Services<br>
  <input type="checkbox" name="checkbox" value="checkbox">Designing
  web page using HTML<br>
  <input type="checkbox" name="checkbox" value="checkbox"> Planning
  and Designing of a web site<br>
  <input type="checkbox" name="checkbox" value="checkbox">Web site
  Development Tools<br><br>
  How did you find this course ?<br>
  <input name="radiobutton" type="radio" value="radiobutton">Excellent
  <input name="radiobutton" type="radio" value="radiobutton">Good
  <input name="radiobutton" type="radio" value="radiobutton">
  Satisfactory</p>

<p>
  <input type="reset" name="Reset" value="Reset">
  <input type="submit" name="Submit" value="Submit">
</p>

</form>

</body></html>
```

Use of Form and its components in Feedback form - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print View Source

Address C:\forms.htm Go

Your Feedback/Suggestion are most valuable to improve our course curriculum.
Please fill out the following information.

Feedback Form

Last Name:

Middle Name:

First Name:

City:

State:

Address:

Mail ID:

What are the topics that you find needs improvement.

☐ Internet and Services

☐ Designing web page using HTML

☐ Planning and Designing of a web site

☐ Web site Development Tools

How did you find this course ?

☐ Excellent ☐ Good ☐ Satisfactory

Done My Computer

Fig. 5.6: Display feedback form in browser

INTEXT QUESTION

3. Write True or False for the following :
- (a) RADIO is used for attributes.
 - (b) Drop down menu is not supported in HTML.
 - (c) Text fields may be used for multi-line input.
-

5.6 WHAT YOU HAVE LEARNT

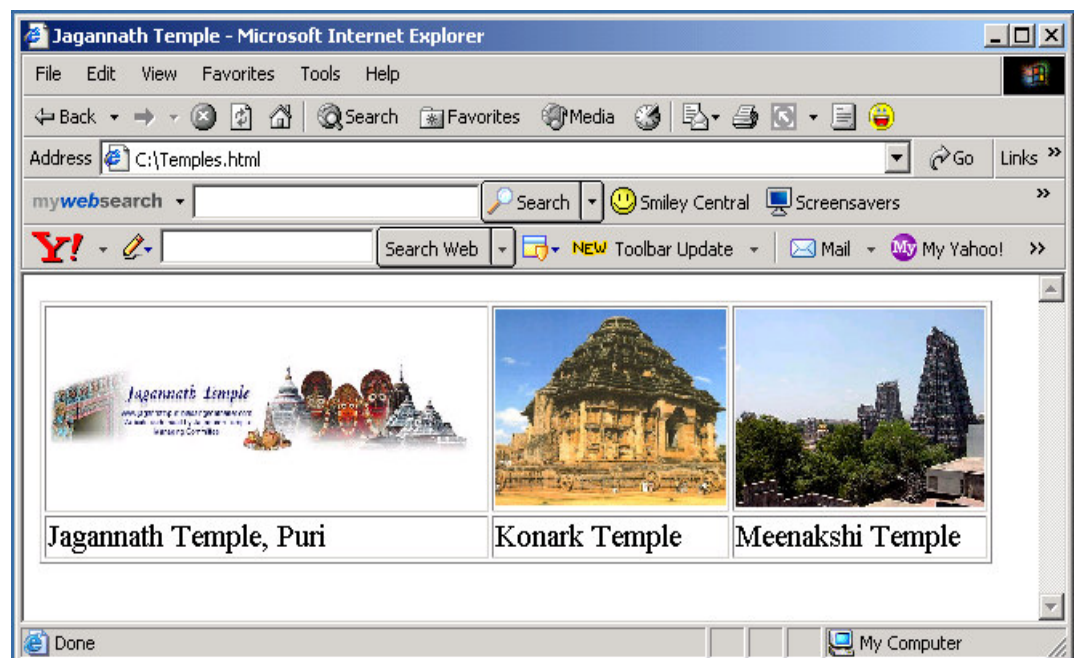
In this lesson you learnt about advanced features of HTML - mainly how to create tables and use its various attributes. You also learnt about Frames and use of different attributes of Frames. Moreover, we discussed how to develop web page using Nesting Frames and Table.

5.7 TERMINAL QUESTIONS

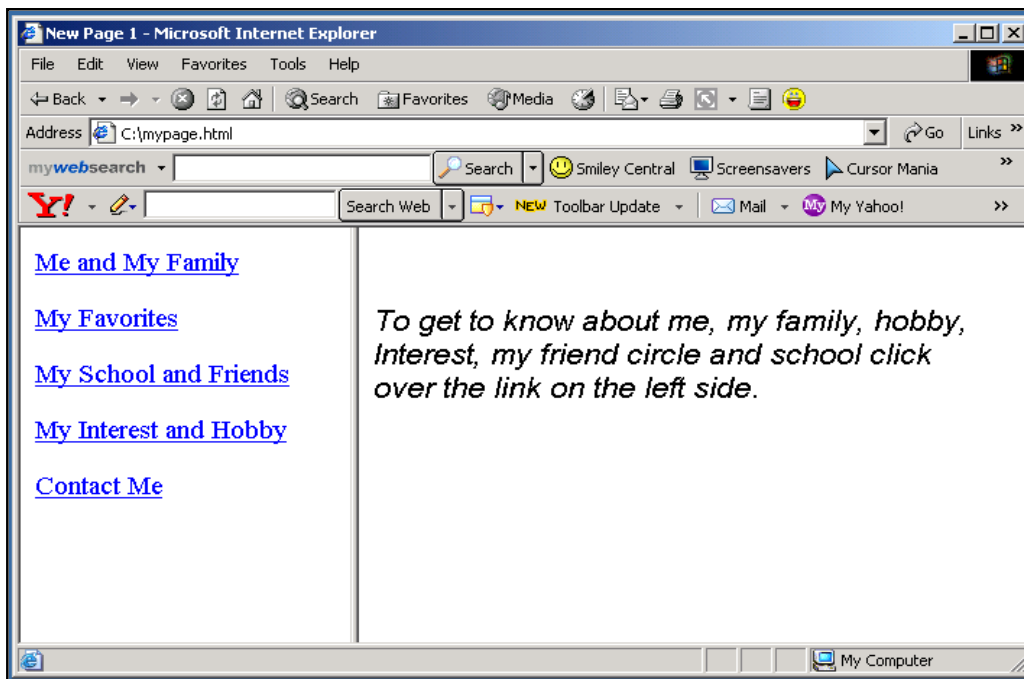
1. Write a HTML file to create the following Table:

Name	Mathematics	Science	English	Hindi
Ram	55	65	69	60
Shyam	50	49	82	67
Alok	92	72	62	60

2. Create a HTML document with a Table as shown in the following figure. Provide a brief description for each image.



3. Explain frames. What are advantages of using Frames? Write down the syntax of Frameset and Frame tags with its attributes.
4. Create a HTML document with two frames, which contains a navigation bar on the left-hand. The right side frame is the target of left frame that should display appropriate contents reference to links on the left



5. Write a HTML document to create the following form.

The screenshot shows a Microsoft Internet Explorer window with the title 'Tell us what you think about our web site - Microsoft Internet Explorer'. The address bar shows 'C:\forms.html'. The form contains the following elements:

- A paragraph: 'Tell us what you think about our web site, our products, our organization, or anything else that comes to mind. We welcome all of your comments and suggestions.'
- A section titled 'What kind of comment would you like to send?' with four radio buttons: 'Complaint', 'Problem', 'Suggestion' (selected), and 'Praise'.
- A section titled 'What about us do you want to comment on?' with a dropdown menu set to 'Web Site' and an 'Other:' text input field.
- A section titled 'Enter your comments in the space provided below:' with a large text area.
- A section titled 'Tell us how to get in touch with you:' with 'Name' and 'E-mail' text input fields.
- Two buttons at the bottom: 'Submit Comments' and 'Clear Form'.

5.8 FEEDBACK TO INTEXT QUESTIONS

- (a) False (b) True (c) True
 - (a) Frames (b) FRAMESET, FRAME (c) container
 - (a) True (b) False (c) False
-

6

Planning and Designing a Website

6.1 INTRODUCTION

Internet plays a very crucial and important role in day-to-day life. It is not only limited for storehouse and accessing of information on any topic, but also its use for business purpose makes it more popular and indispensable till in everybody's life. Only on click of a mouse you will be able to buy or sell products On-Line. The use of Internet in business application is highly influenced by how well interface is designed and managed. Keeping the scenario in mind, one can not ignore the importance of Planning, Designing, Deploying (Hosting) and managing information on the net.

The main purpose of a website is to deliver specific information to a target audience. The success of the website is measured in terms of the number of visitors to the site and the ease with which the visitors find the required information.

The target audience of the website also plays an important role. It may be purely for entertainment, educational, health, tour and travels; accordingly appropriate content has to gather and interface has to design. Before design the interface, it is essential to layout the information structure of the site.

6.2 OBJECTIVES

After going through this lesson, you would be able to:

- plan the structure of a web site
- identify the components of a website
- distinguish between different types of websites
- host a sample website into a free web hosting server
- maintain a website
- identify various publishing tools for hosting your website

6.3 WEBSITE PLANNING

It is the first most important part of building a website.

Before designing a website, it is necessary to do proper planning as in the case of building a house. If you start building your house without giving a thought of planning, the house may end up into an uncomfortable dwelling. Same way, for building a good website certain things should be taken care of.

*The following “**Things to consider**” while planning a website:*

- Purpose of website
- Target audience
- Website contents
- Blue print of a website
- Directory structure of the website
- Budgeting

6.3.1 Purpose of website

The initial stage of planning your website is to “**Identity the Purpose of the Site**”. It could be as follows:

- To educate people
-

- To entertain people
- To promote / sell a product
- To promote information on companies, products and sources, sports and games, Travel and tourism, medicines and health.

Having specific purpose is a necessary since it provides you with the guidelines on what should be put onto your site; what resources (Software, Hardware, and Manpower) are needs for the project etc.

6.3.2 Target Audience

The next step is to “**Identify the Target Audience**”, their knowledge, background, interests and needs, age, gender, geographic location etc. Determining, who the visitors are likely to be crucial in deciding not only the general appearance (look and feel) of the site, but also the technology that might be used to build the site.

If the website is likely to have visitors who access from home, it is necessary to designate the papers with the understanding that users will have probably slow modem connections.

On the other hand, if visitors are expected to be fans of music, rock band, then high-end technology such as Macromedia Flash, Animation with sound effects may be acceptable.

6.3.3 Website contents

Once the Purpose and Target Audience of the website are defined properly, organize the website contents. Put together any existing documents and pictures you want to work. For example, if it is a company website, you may want to assemble logos, company information, and product descriptions.

While doing website content information, the following steps to consider:

- Who will write or provide the text (contents). Some very basic contents might be:
-

- o Who you are
 - o What you do
 - o How to contact you
 - o List of services and products
- Assemble photographs, logos
- Updating of text and other content to keep site fresh and content correct

6.3.4 Blue print of a website

Before designing your website, you may like to create blue print or sketch of your website as shown in figure below:

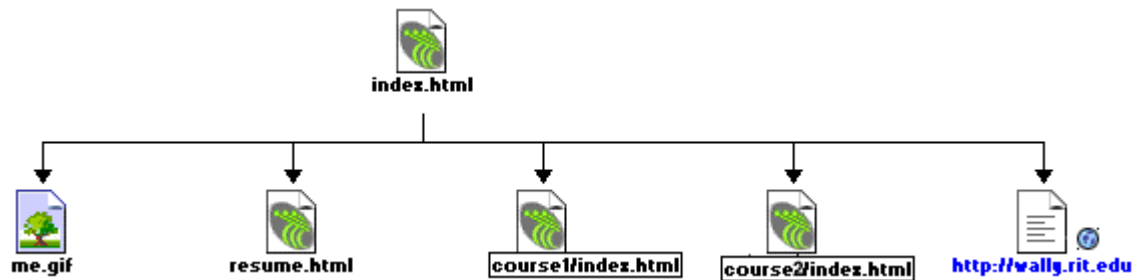


Fig. 6.1

This will give you complete Hierarchical Picture of the links among different pages in the web site.

6.3.5 Directory Structure of the website

Organizing your site carefully from the start can save your frustration and time later on. For better management of the site, it would be better to create a directory structure for your site, where the website contains all the files put under one directory. This may hold some sub-directories containing related items like you can have subdirectories of images or pictures, sound clippings. So breakdown your site into different categories and store concerned files inside. Developing a logical structure is an essential part of developing your website.

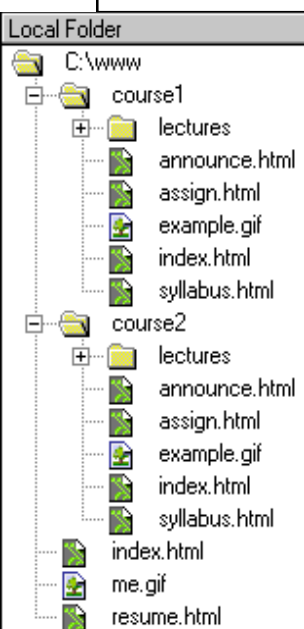
Example:

Here, www is the root folder of the web site. It holds an index.html - home page, resume.html, an image me.gif and two more sub-directories course1, course2.

The course1 and course2 sub-directories have their own structure of files. This is a sample structure.

- lectures sub-directory
- announce.html
- assign.html
- example.gif
- index.html
- syllabus.html

Fig. 6.2



etting

nd complex web site, it is also very important to do
id other costs involved for the development of a web
loing the budgeting the following things need to

salaries and benefits of development and support
taff

ardware and Software used

erver and technical support

involved:

- Domain name and registration
- Internet Service Provider
- Search Engine Registration

6.4 WEB SITE DESIGN CONSIDERATION AND PRINCIPLES

Good Website Design

Frustration is a common experience among marketers trying to judge the quality of a web site design. Everyone wants to implement the best-looking web site, but opinions of what constitutes a great site vary.

Fortunately, what constitutes a good web site isn't based on opinion. It is based upon evidence.

Although the 'look and feel' of many well-conceived web sites may vary greatly, good web sites tend to share a number of characteristics. These characteristics provide the basis of the "Research-Based Web Design."

Good overview and deep understanding of the wide range of Web design issues that they may encounter while managing a web site. The guidelines provide marketers with standards that can be used to judge web designs. Marketers can request that the web designers and developers they work with follow relevant portions of the guidelines and can use the guidelines to set priorities.

The best Web site design for your Web site is the one you like best, but there are some things you will need to remember. Just because your Web site is pretty does not mean your readers will read it, or come back another day to read it again. Here are Web site design tips to help you help them to like your Web site.

- Use an Iterative Design Approach
- Provide Useful Content
- Ensure Visual Consistency
- Use Black Text on Plain, High-Contrast Backgrounds

Following are some basic principles about web site design which will help you to design an effective web site:

- Easy to read
 - Easy to navigate
-

- Easy to Find
- Layout and design consistency
- Quick download
- Updated information and features that support all browsers

6.4.1 Easy to read

The most important rule in web design is that your web site should be easy to read. To make sure your website is easy to read, consider following things:

- Choose your text and background colors very carefully. Use dark colored text on a light colored background.
- Do not set your text size too small (hard to read) or too large, default text size for a webpage is 3. Text size ranges from 1 to 7.
- Keep the alignment of your main text to the left. Center aligned text is best used in headlines.

6.4.2 Easy to navigate

Your web site should be easy to navigate.

Things to consider:

- All of your Hyperlinks should be clear to visitors. Graphic images, such as buttons or tabs, should be clearly labeled and easy to read.
 - Make your text links blue and underlined that is familiar to your visitor.
 - Include a way to get back to the home page, on every page.
 - Include Navigation tools on every page.
-

Sample Example of Navigation:

This page uses **left vertical navigation**

Navigation is at the heart of any good web design. The ability of visitors to get around site quickly and easily is extremely important. There are several basic styles of navigation. In general the styles are identified by position and orientation on a page.

Fig. 6.3

This page uses **top horizontal navigation**

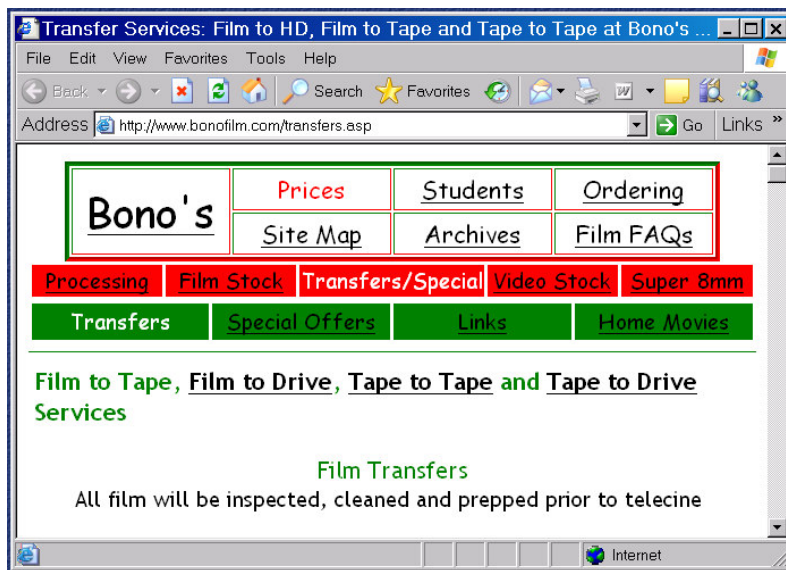


Fig. 6.4

They include:

- Top
- Left Side
- Right Side
- Bottom
- Horizontal
- Vertical

Top and side navigation are the most common. Right side navigation is extremely rare. Because it is so rare, it should be avoided because web visitors are not used to it.

Bottom navigation is used when pages are long. This eliminates the need for the page visitor having to scroll back to the top of a page to access a link.



Fig : 6.5

This page uses **primary navigation at the top** and **secondary navigation on the left side**

On complicated sites navigation can be divided into primary and secondary categories.

Often navigation links are created using an effect called a “rollover”. This effect often appears as link changing shape and color. It is accomplished by having a primary image swapped for a secondary image when a mouse pointer passes over it.

6.4.3 Easy to find

Effective web sites can easily be found and accessed over the Internet. After building your website, to make sure your presence known to others, to make the sites availability over Internet, on searching through search engine, it is necessary to promote your site online. Websites are promoted online via search engines, for which, the site should be registered with several major search engines, banner advertising, electronic magazines and links from other websites.

6.4.4 Layout and Design Consistency

Your webpage layout and design should be consistent throughout the site, including colors, graphics, type faces and all other design elements. For Example: link colors throughout your website, font

type, colors and background colors, alignment in the main text and the headings should remain same throughout your site.

6.4.5 Quick to download

While designing a website always think how long it will take to load. It is best to keep your download time as short as possible by:

- Minimizing the use of images
- Cut down the animated gifs
- Using compressed images

Updated information and features that supports all browsers

Always keep your web site content fresh and alive. Remove any outdated information and add new information as appropriate and update existing information regularly.

Make sure that the features the web site contains are supported by all browsers.

INTEXT QUESTION

1. Choose the correct answer:
 - (a) The following “Things to consider” while planning a website:
 - (i) Purpose of website (ii) Target audience
 - (iii) Website contents (iv) All of these
 - (b) The initial stage of planning your website is to:
 - (i) Identify the target audience
 - (ii) Identity the Purpose of the Site
 - (iii) Budgeting (iv) Prepare Blue Print
 - (c) Which of follwoing are the are web site design consideration and principles?
 - (i) Easy to read (ii) Easy to navigate
 - (iii) Quick download (iv) All of these
-

6.5 WEBSITE AND ITS COMPONENTS

A website is a collection of documents written in the HTML Language for an individual, a business or other organization. It is typically dedicated to some particular topic or purpose.

6.5.1 Category of website

Basically there are two categories of websites, they are:

- **Static website**
- **Dynamic website**

Static Website

A **static website** is one that has *content not expected to change frequently*. It is maintained by using some type of editor software such as:

Text editors such as **Notepad** where the HTML is manipulated directly within the editor program.

WYSIWYG (What You See IS What You Get) editors such as **Microsoft FrontPage** and **Macromedia Dreamweaver**, where, the site is edited using GUI interface and the underlying HTML is generated automatically by the editor software.

Dynamic Website

A **dynamic website** is one that may have *frequently changing information*.

Here, when the web server receives a request for a given page, the page is automatically generated by the software in direct response to the page request; this opening up many possibilities including for example: providing information in some way personalized to the requirements of the individual user or look and feel differently to different user.

There are large ranges of software systems, such as **Active Server Pages (ASP)**, **Java Server Pages (JSP)**, **PHP** programming language that are used to develop dynamic websites.

6.5.2 Types of websites

There are many different types of websites. Some of the most common ones are listed below:

Commercial site: The purpose of this type of website is to sell products or services. The Internet address often ends with .com. For Example: **www.Amazon.com, www.ebay.com, www.yahoo.com**

Country codes: Websites from other countries have a country code at the end. For Example: India is .in, Great Britain is .uk and Canada is .ca.

Educational site: to provide information about an educational establishment. The internet addresses ends in .edu or .ac. For Example: **www.ignou.ac.in, www.nios.ac.in**

Download site: strictly used for downloading electronic contents such as software, game or computer wallpaper. The Internet address often ends with .com For Example: **www.download.com, www.downloadjunction.com**

Entertainment site: The purpose of this type of website is to entertain and to provide amusement. The Internet address often ends with .com. For Example: **http://www.image-entertainment.com, www.rhymesayers.com, www.entertainment.msn.com**

Government site: The purpose of this type of website is to provide information produced by government agencies, offices, and departments. Usually, information provided by government websites is very reliable. The Internet address often ends with .gov. For Example: **www.india.gov.in, www.indianrailways.gov.in.**

Information site: It contains content that is intended merely to inform visitors, but not necessarily for commercial purpose. For Example: Free Internet Lexicon and Encyclopedia - **www.wikipedia.com.**

Internet Service Provider: The purpose of this type of website is to promote companies and services related to the Internet. The Internet address ends with .com. For Example: **www.vsnl.com**

Military: The purpose of this type of website is to provide information about the military. The Internet address ends in .mil.

Organizational: The purpose of this type of website is to advocate an individual's opinion or a group's point of view. The Internet address often ends with .org.

News: The purpose of this type of website is to provide information about current events. The Internet address often ends with .com. For Example: **www.timesofindia.com**, **www.hindustantimes.com**

6.5.3 Components of a website

Some of the basic components of any website are as follows:

Home Page and site-wide template design to ensure an attractive, functional and consistent appearance of your website.

Integrated site navigation to provide clear and consistent access to your site's content.

Look and feel of your website, including colors, text and graphics, as well as the way it functions.

A Logo: A professional looking logo. It should be displayed in the left corner of each page of your website.

A site map: Providing a list of all pages on your site.

Website Search features allowing users to search your website for content relevant to their specific interests.

About page that includes:

- A complete description of you and / or your company
- Your website and / or company objectives
- Your name, address, phone numbers and e-mail addresses

Feedback: that facilitates the customers to ask some queries about your Products and Services.

A domain name: Your 'address' on the internet, what

people type into their browser to find you. You choose a word or phrase (Example:- mywebsite) and an extension (Example:- .com, .net, .edu), your domain name could be mywebsite.com.

Web Hosting: The physical place your website resides; includes the computer (called a server) as well as the connection to the Internet and the technology that makes as your website work.

Copyright: Displaying your copyright information at the bottom of each page. Your copyright might look like this:
Copyright @ Year CompanyName

6.6 Addresses of Some Impressive Websites

www.w3schools.com (Online Web Tutorials)

www.wikipedia.com (The Free Encyclopedia)

www.google.com (Search Engine)

www.ebay.com (Business)

www.download.com (Download Softwares)

www.animationfartary.com (Animation)

www.timesofindia.com (News)

www.espnstar.com (Sports)

www.freesevers.com (Free Web Hosting)

www.geocities.yahoo.com (Free Web Hosting)

INTEXT QUESTION

2. Write True or False for the following:

- (a) A static website is one that may have frequently changing information.
 - (b) www.yahoo.com is a commercial site.
 - (c) A domain name is the address on the internet
-

6.7 WEB HOSTING

A **web hosting service** is a type of Internet hosting service that provides individuals, organizations and users with online systems for storing information, images, video, or any content accessible via the Web. Web hosts are companies that provide space on a server they own for use by their clients as well as providing Internet connectivity.

The amount of space your host provides you is called **disk space** and the number of times your site is accessed by you or users is called **bandwidth**.

6.7.1 Types of hosting

- **Free web hosting service:** is free, (sometimes) advertisement-supported web hosting, and is extremely limited when compared to paid hosting.
- **Shared web hosting service:** is paid, one's Web site is placed on the same server as several hundred other sites. These are somewhat restricted to what can be done.
- **Dedicated web hosting service:** is paid, the user gets his or her own Web server and gains full control over it (root access for Linux/administrator access for Windows); however, the user does not own the server.
- **Colocation web hosting service:** is paid, similar to the dedicated web hosting service, but the user owns the server; the hosting company provides physical space that the server takes up and takes care of the server. This is the most powerful and expensive type of the web hosting service.

6.7.2 Free web hosting service

A **free web hosting service** is a web hosting service that is free, usually advertisement-supported and of limited functionality. Free web hosts will either provide a subdomain (yourname.example.com) or a directory (www.example.com/~yourname). In contrast, paid web hosts will usually provide a domain like (www.yourname.com).

A few free web hosts have a basic package for free, and enhanced packages (with more features) for a cost. This allows users to try the service for an initial trial (see how it performs compared to other hosts), and then upgrade when (and if) needed.

Free hosting may be having the following limitations:

- Limitation on the size of each hosted file
- Very small bandwidth per month compared to paid hosting
- Do not allow certain file types (for example MP3, MPEG etc.)
- Compulsory placement of the Webhosts' Banner or Popup ads into all web pages

Some free host may provide these extra features:

- A web based control panel
- File transfer via FTP
- Scripting languages: PHP, ASP
- Relational databases such as MySQL
- Free email accounts for the domain or subdomain hosted

Name of some free web hosts:

Geocities (geocities.yahoo.com), **Netfirms** (www.netfirms.com), **Freeservers** (www.freeservers.com), **50megs** (50megs.com) , **Freewebs** (www.freewebs.com), **Tripod** (www.tripod.com)

6.7.3 Paid Web Hosting Service

A **Paid web hosting service** is a web hosting service that is chargeable based on your acquiring space, functionalities you own and database used if any. It has some pros and cons that have been described below:

Pros:

- You can host your own domain. With paid hosting, you can brand your site with your own domain name (e.g. www.yourCompanyName.com) and add legitimacy to your content.
-

- Control. With paid hosting, you control every aspect of your site, including design and advertising content.
- Accountability and Portability: When you pay for hosting, you hold more leverage over your hosting company in the event of problems. Additionally, by retaining control of your source code and data, you can easily move your site to a new host.

Cons:

- Expense. Though you can get hosting plans as cheap as 500 per month, it's still a cost that free hosting does not incur.
- Some assembly required. Though many paid hosts offer site builders as part of the package, it still requires more technical work.
- Maintenance. When you create a site yourself, you become responsible for the upkeep of your own code. In fact, you become responsible for just about everything involved with the site except for the server and connectivity.

So in summary, *making the right choice between free hosting and paid hosting is heavily dependent on both you and your site.*

6.7.4 Understanding of terms associated with Web Site Hosting

The terms associated with web hosting:

➤ **File Storage Space**

Usually hosting companies sell different packages centered around storage space. Storage space is specified in kilobytes (KB), megabytes (MB), or gigabytes (GB); a megabyte is 1000 kilobytes and a gigabyte is 1000 megabytes.

How much storage space do you need? Well, that depends on what you are planning to do with your website. If you have only a few pages of text and little to no graphics or

images, a 25 MB should be more than you will ever need. Most hosting packages start at 25 MB of storage space.

➤ **Bandwidth**

The number of times your site is accessed by you or users is called **bandwidth**. If you are expecting a lot of hits (millions of page views) to your site you will need to get the most bandwidth you can afford. For new web sites it may take a while to get up to a significant bandwidth.

➤ **E-Mail**

Most hosting plans include a significant number of e-mail accounts and unlimited e-mail-forwarding.

E-mail forwarding is when e-mail that is addressed to your website gets redirected to another e-mail address that you specify. Most plans include unlimited e-mail forwarding. An example of e-mail forwarding: for one of my websites mail addressed to sales.mylink@yahoo.co.in, mkt.mylink@yahoo.co.in, and webmaster.mylink@yahoo.co.in all get redirected to my mylink@gmail.com address.

➤ **Support**

For the companies that do not have 24 hour support, you will have to determine if their phone support hours meet your specific needs. If you plan on working on your web site during all hours of the day, make sure to choose a company with 24/7 phone support.

➤ **CGI**

Common Gateway Interface (CGI) is a program, also known as scripts, that can be run on a website to make the site more dynamic. CGI programs can be written in PHP, ASP, Python, countless other languages. It is best to select a hosting plan that allows CGI because you will undoubtedly run across an application or game that you want to modify or include on your site.

➤ **Server Operating System (OS)**

For most basic websites you will not have worry about which OS your web hosting company is using. Most plans are running on either Unix or Linux. For some unique web site features, you may need a Windows based server.

➤ **Setup Fee**

Some hosting companies charge a setup fee when your account is created. This is usually a one time fee and may be waived, in some cases, when you pre-pay for your service. Check the hosting company's terms carefully to determine the details of their setup fee.

6.7.5 Organization providing Web Hosting Services are

There are many authorized Govt. and private web hosting service providers in India, few are:

NIC (www.india.gov.in) , **Nettigrity** (www.nettigrity.com) , **Net4India**, (www.net4india.com), **serversindia** (www.serversindia.net) etc.

6.8 DOMAIN REGISTRATION

A domain name is a way to identify and locate computers connected to the Internet.

When using the internet, you use a domain name when you type a web address, or URL. A **web address** would look something like this: *http://www.example.com* The **domain name** is "**example.com**."

Some of the common top level domain names with their significance are:

.com is for commercial, for-profit people and organizations.

.edu is for 4-year, degree granting colleges/universities. (schools, libraries, and museums should register under country domains)

.ac for educational purpose

.in for country India

.net is for network infrastructure machines and organizations.

.org is for miscellaneous, usually non-profit, organizations. (for use by organizations and individuals that do not clearly fit in any of the above)

6.8.1 Why Register a Domain?

Domain names are registered for a variety of reasons. Some *build a web site right away*, or *buy a name to build a site later*, while others purchase domain names in order to *protect a company name or trademark*, and some register a domain name so they can have *personalized email addresses*.

6.8.2 Where to Get a Domain Name?

You get **a domain name from a domain name registrar**. Accredited Domain Registrars in India are:

Government registrars:

- gov.in, mil.in: **National Informatics Centre (NIC)** is the exclusive registrar for gov.in and mil.in domain names.
- ac.in, edu.in, res.in: **ERNET** is the exclusive registrar for ac.in(Academic), edu.in(Academic) , and res.in (Indian Research Institute) domain names.

Few Private authorized registrar to register domain names:

- BiznetIndia Dot Com Private Limited
 - Data Infosys Limited
 - IndiaLinks Web Hosting Pvt Ltd
 - Net4India Limited, dba Net4Domains
 - PDR Domain Solutions Pvt. Ltd.
 - Pioneer Online
 - Rediff.com
 - Sify Ltd.
 - Silicon House
-

6.9 WEBSITE MAINTENANCE

Why do you need to maintain your site?

If your site is outdated you are losing a lot of potential customers!

Many people put their websites up on the Internet and then never update the pages again. When the date at the bottom of a web page says “Last updated 1999”, visitors leave the site thinking you might not even be in business anymore, or the information on your web site is no longer current. On many occasions their business may change address or telephone number, but these changes are not updated on their website. Nothing leaves a worse impression than going to a web site and finding errors, missing or broken links, and poor navigation. Studies show that almost all visitors will leave your site right away.

Another reason for website maintenance is to re-submit your site to search engines, since they tend to drop website listings for no apparent reason and your customers will have no way to find your business.

It is crucial that the content of your website be current, up to date and accurate.

6.10 PUBLISHING TOOLS

Publishing information on the WEB for public access is becoming more and more important. Tools You Will Need to Publish WEB Pages are:

An HTML EDITOR	MS Frontpage Express will be quite sufficient; especially for beginners. FP Express is a free software, which is distributed as a part of Internet Explorer 4.01. Those who do not have FP Express already installed on their PC's can download the program here. Please note that FP Express requires Windows95 or Windows98. Any PC capable of running Win95 will work fine.
-----------------------	---

An Image Editor	If you will need to put images on your Web pages (most probably you will), we recommend you to download another free and popular image editor (LViewPro). Please note that you will have to learn a lot about this program before you start creating fancy graphics.
A Program to Transfer the Files Create to the WEB Server	The simplest way to make these sorts of transfers is using FTP (File Transfer Protocol). A Windows application, WS_FTP is a popular FTP Client which will help you in transferring files to-and-from UNIX hosts.

6.11 CREATING/MAINTAINING WEBSITE IN A FREE WEB HOSTING SERVER

There are many free web hosting servers available, let's take a look into **geocities server**.

Follow the steps to create and maintain your website in geocities:

1. **Open the geocities site:** Type `http://geocities.yahoo.com/` in browser address bar. This will lead to you to the geocities site.

Fig. 6.6

2. **Use your yahoo! ID to log on the site**, if you do not have than **Sign-in** to create a yahoo ID. The Sign Up process take you to a page where you have to filled your details before successfully creation of your User Id in yahoo.

After successful log in :

You can get web address bar where you can find your address on the Internet. You can jump to view your site on clicking View My Site.

To View your site click on the View My Site button

Your web address (address on the Internet)

N.B: By default yahoo users get some space in geocities server with the address `www.geocities.com/yourYahooID`, and default index page (home page) is created that can be customize later on

Fig. 6.7

The Geocities **Control Panel**, where you can **create and update your page and manage** your website.

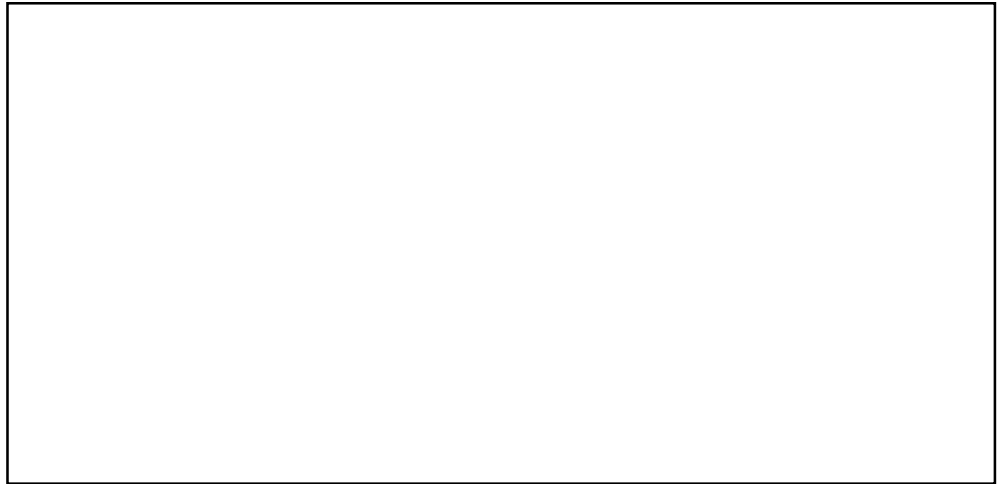


Fig. 6.8

3. Create and Update Website

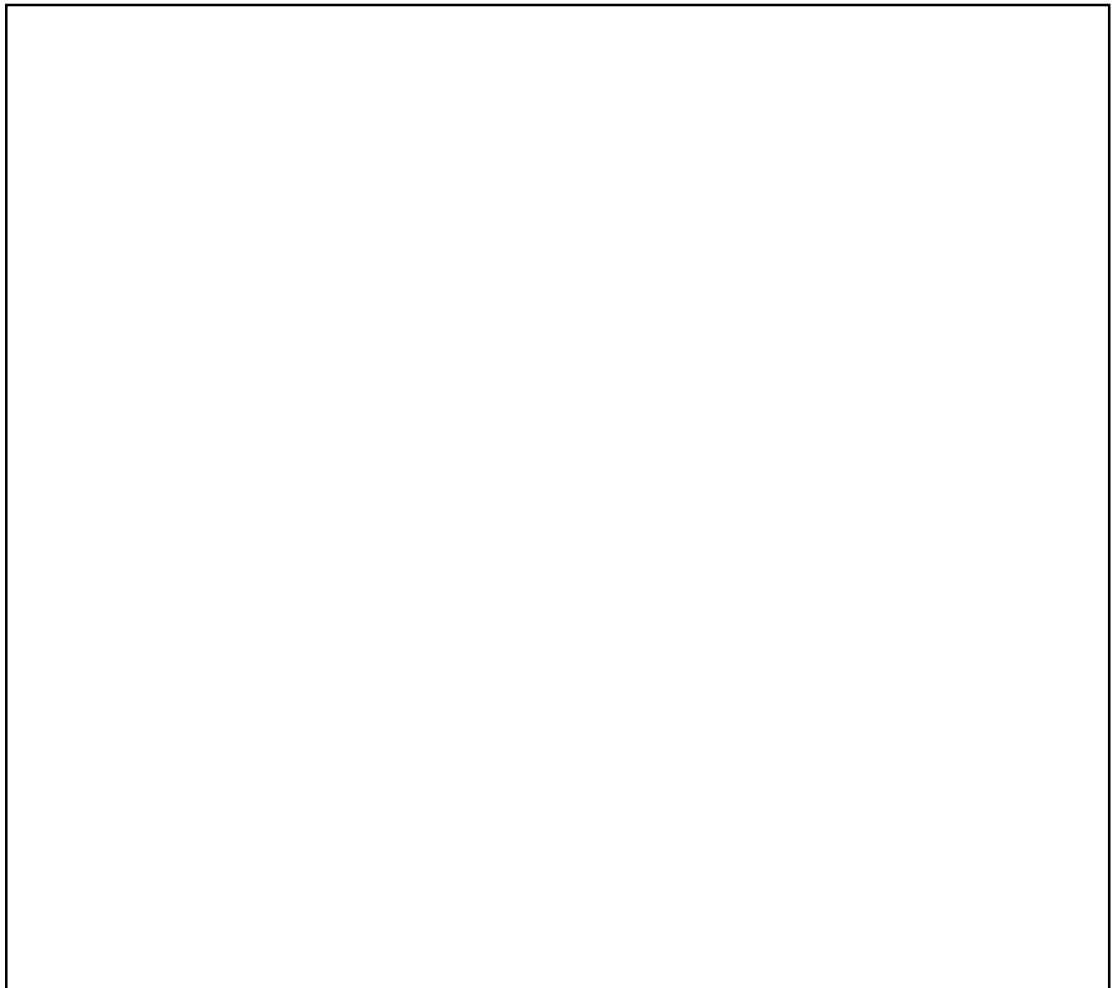


Fig. 6.9

To **create Website** Geocities provide tools **Yahoo!PageWizards**, **Yahoo!PageBuilder**. For new users PageWizard is easy and quick, after answer a few questions it will create a great-looking web page. PageBuilder is an easy-to-use drag and drop web page editor.

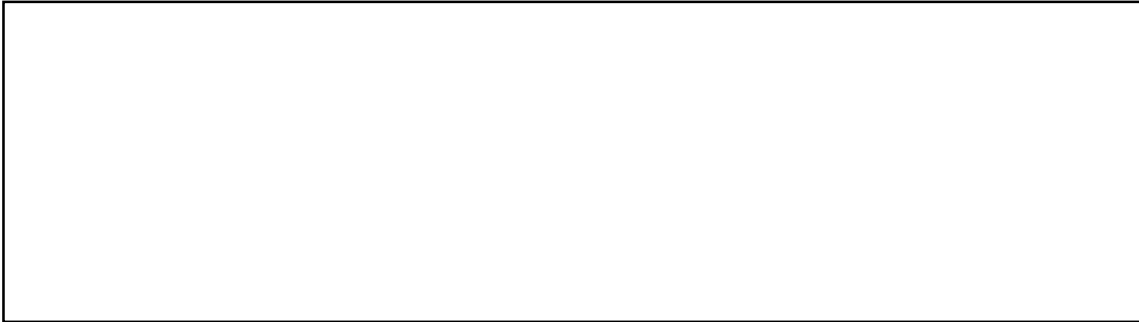


Fig. 6.10

There are other tools also available like HTML editor and Text Editor to create web page.

Upload Files

If the web pages are already created before you can easily upload

Easy Upload

Transfer files from your computer to your main directory with this simple tool. First click on **Browse...** to select files, then click **Upload Files**.

Note: File names **cannot** contain spaces. The total upload can be up to 5MB.

	Browse...
	Browse...
	Browse...
	Browse...
	Browse...

Add more files

Upload Files
Clear

☐ Automatically convert filenames to lowercase.

☐ Automatically change ".htm" extensions to ".html"

great-looking
 it.
 re drag-
 you to
 eb site.
 eate the
 to
 r own

Fig. 6.11

File Manager

Maintain and modify files and subdirectories with this versatile tool. Access the Advanced Editor to edit and create HTML files. File manager does everything for you such as: **creation of new, edit an existing, copy, rename, delete and upload files.**

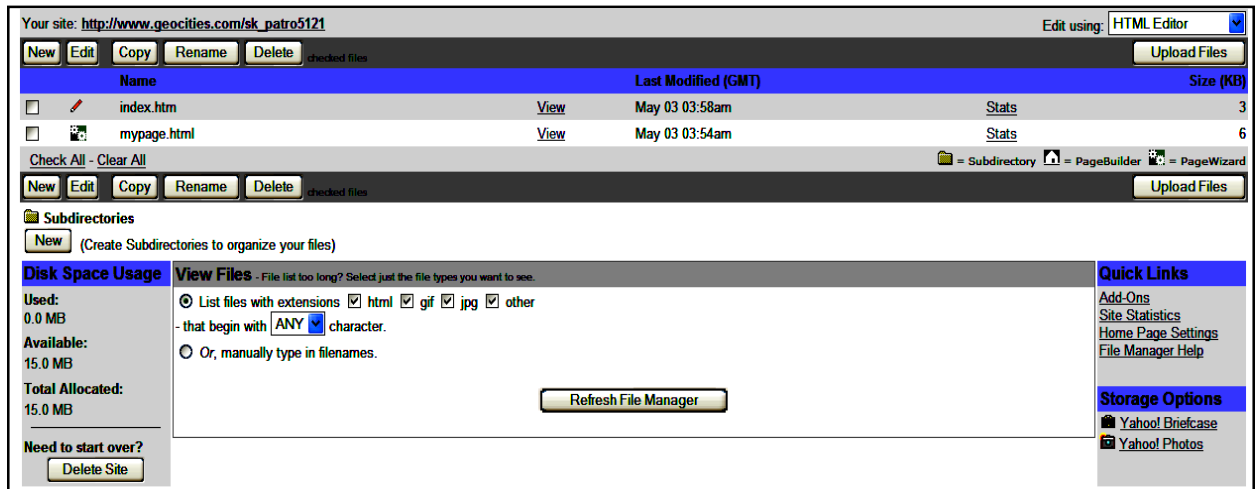


Fig. 6.12

INTEXT QUESTION

3. Write True or False for the following
- (a) The amount of space your host provides you is called disk space.
 - (b) NIC is not a free web hosts.
 - (c) A domain name is a way to identify and locate computers connected to the Internet.
 - (d) CGI is known as Common Gateway Internet.
-

6.12 WHAT YOU HAVE LEARNT

In this lesson we discussed about the different steps of effective planning a website. While designing a website you have to keep in mind the purpose of the website, target audience, content and

budget. The website should be easy to read, easy to navigate and easy to find. In this lesson you have learnt about the components of a website and how to host a website also.

6.13 TERMINAL QUESTIONS

1. Explain the term Website Planning? What are the things to consider while planning a website?
2. Why website design is an important phase in website building process? What are the basic website design consideration and principles?
3. Explain static and dynamic website. Name the different type of websites. What are the basic components of any website?
4. Define Web Hosting? What are the types of hosting services?
5. Define the term Domain name? Why register a Domain? Who are the authorized domain registrar in India?

6.14 FEEDBACK TO INTEXT QUESTIONS

1. (a) (iv)
(b) (i)
(c) (iv)
 2. (a) False
(b) True
(c) True
 3. (a) True
(b) True
(c) True
(d) False
-

7

Developing Website Using Tools

7.1 INTRODUCTION

A number of Software Packages are available in market for creating a website. Among popular softwares are Dreamweaver, Microsoft FrontPage and Flash. These tools provide very efficient and systemic approach for scheduling, creating and managing websites. The web master need not to write html code for positioning of each item on website. The available softwares for web design and development generate the code automatically. We shall discuss FrontPage in detail so that after reading this Course, a Student will be able to create a Website of his/her own using FrontPage.

7.2 OBJECTIVES

After going through this lesson, you would be able to :

- create a website using Microsoft FrontPage software
 - explain Hyperlinks to connect frames
 - manipulate graphics while designing Web Page
 - describe dreamweaver tool is used to create simple web sites
-

7.3 MICROSOFT FRONTPAGE 2000

It is a member of Microsoft family of Products and shares many features of Microsoft Word, Microsoft Excel, Clipart etc. It manages hyperlinks created in MS-Office documents. It is an integrated platform for development and maintenance of Websites. It does not require a prior knowledge of HTML. We shall be discussing its features in detail.

7.3.1 Starting Microsoft FrontPage

Invoke the Microsoft FrontPage 2000 from Windows as

Start → Programs → Microsoft FrontPage

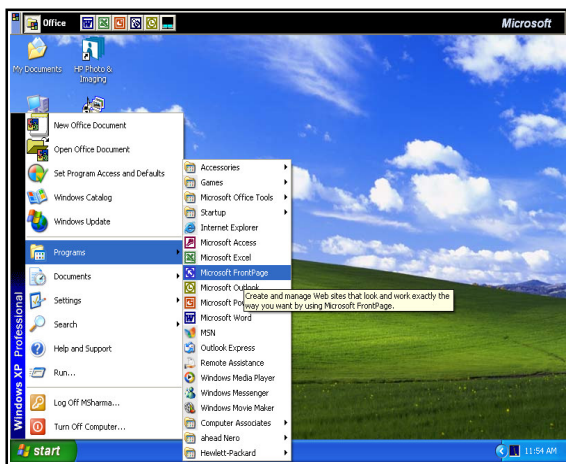


Fig : 7.1

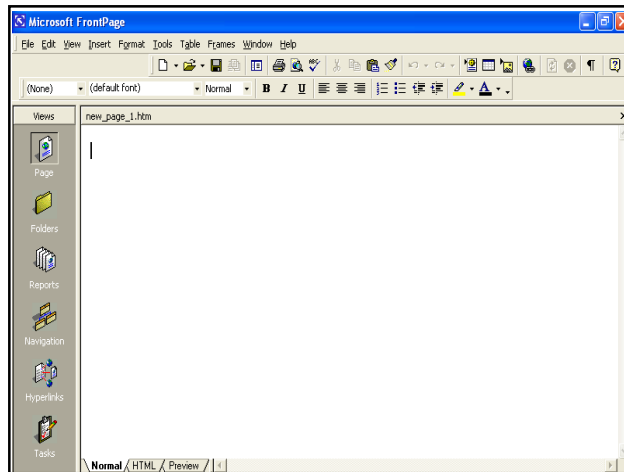


Fig : 7.2

The opening window in FrontPage will be displayed as above:

7.3.2 Building Website

Before creating a website, a web needs to be created where all the files related to website created can be stored. One can create a Web Site with single Page. But if there is more than one page then start your Web Site by creating the web and adding all related pages within the web. For creating a new web:

File → New → Web

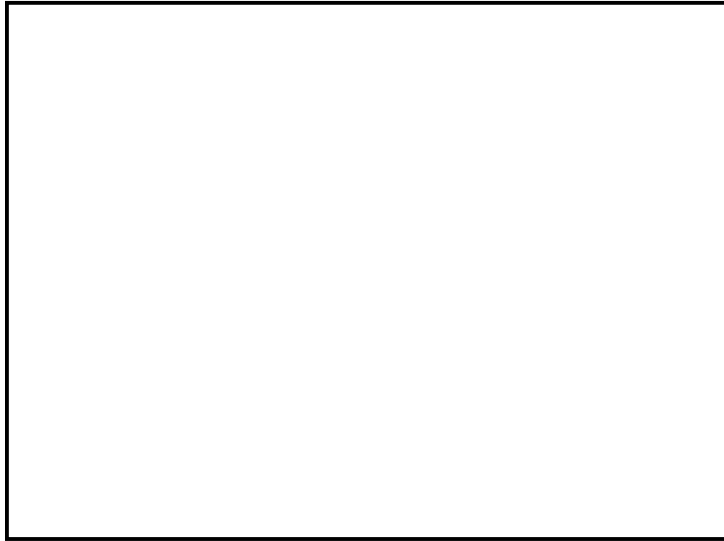


Fig. 7.3

1. In **Websites**, select any one option of your choice to create your new web site. On selecting each option, a brief description is displayed on the right.
2. In the **specify location** text box of the new web, type a name for new web with full pathname or select the web from the existing web created on your computer. When FrontPage 2000 is installed, a default folder **My Webs** is created in **My Documents** folder in which FrontPage can locate all web site's files. For convenience here, almost all the files related to web site are stored in C:\web2.
 - As a user, you can choose to locate your folder on your hard disk drive or Microsoft's Personal Web Server. This can make your Computer function as Web site Server.
3. Click **OK**.

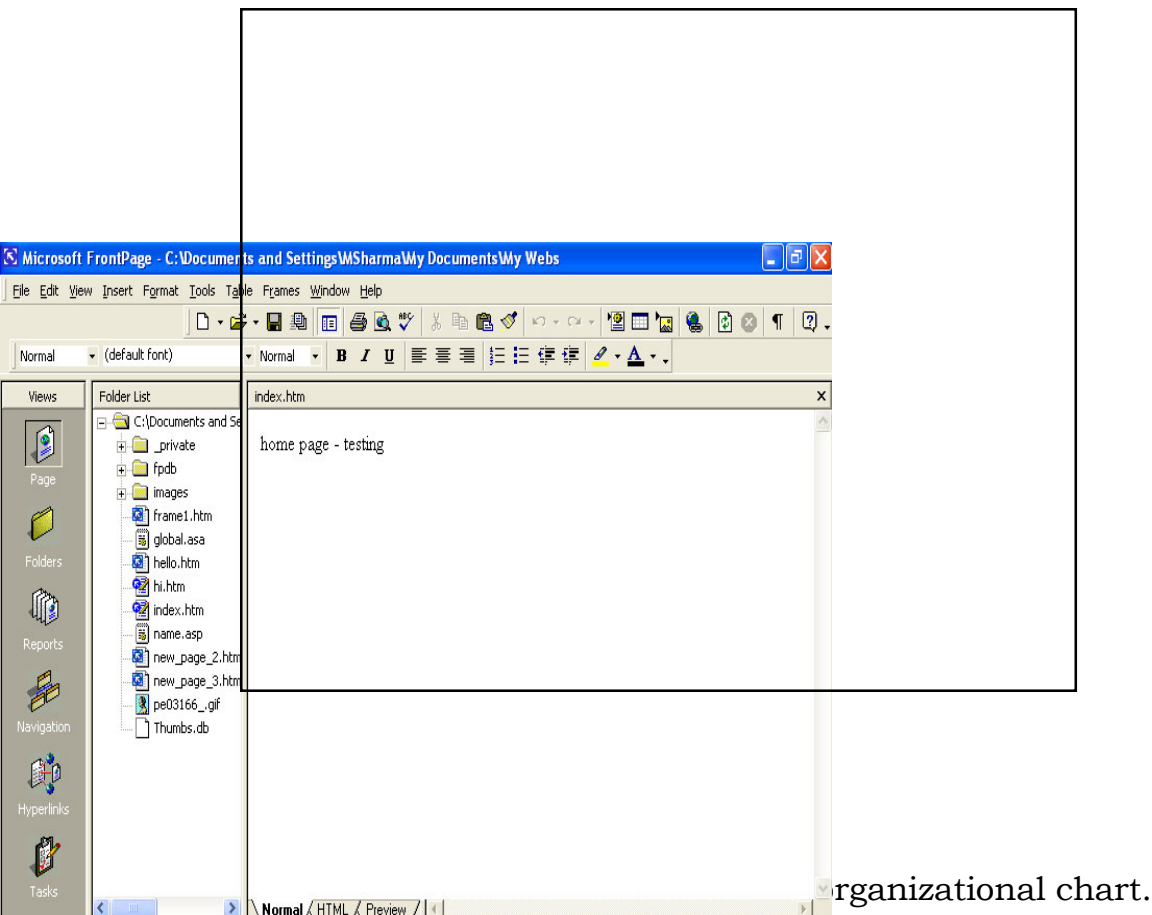
7.3.3 Viewing Website

A web site can be viewed through different angles for its better management.

Page View

By default the opening window of FrontPage2000 opens in Page View. Here, a user can create Web Pages and web sites. The default filename new_page_1.htm appears at the beginning of the page. The other available views are Folder View, Reports View, Navigation View, Hyperlink View and Task View are displayed on the left side of opening window of FrontPage. The view selected is used for managing Web and Pages. All Views can be accessed through View Bars. On display, by default is the Folder list, which gives the functionality of Windows Explorer.

The steps mentioned in these topics are performed in FrontPage Page View, unless stated otherwise.



For example,



Fig. 7.5

Hyperlinks View

It displays the status of hyperlinks in the web. For example, see the figure.

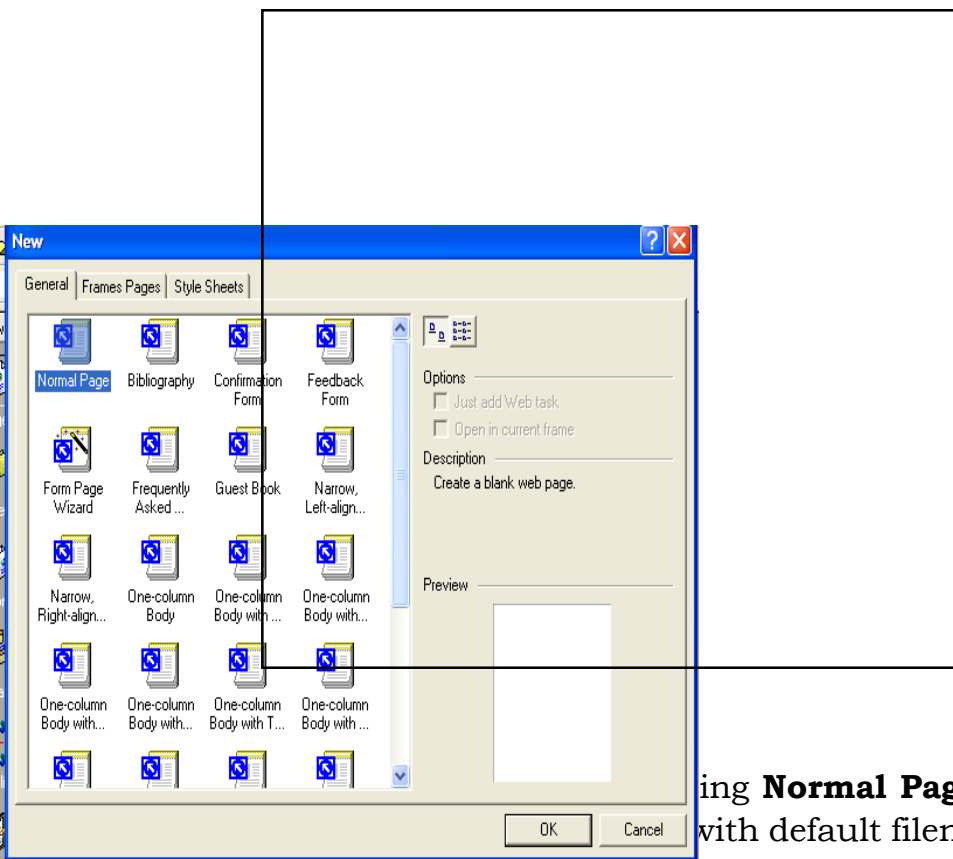
Fig. 7.6

7.4 CREATING A WEB PAGE

For creating a new Web Page document, click on

File → New → Page

Click on the **General** tab. Select the desired Template. It provides the user a layout of the page design i.e. how to place the text, graphics, hyperlinks, labeling of items etc. on the web page. To see the design of a template, click on any template and see its design in Preview window on the right side of the window. To create a Page in your own style, click on Normal Page. This will create a blank Page where you can add items of your choice. Now click **OK**. The new Page displays.



Clicking **Normal Page** Template, with default filename as **new page1.htm** after the toolbars. Now you can start typing text. See the Figure below:

Fig. 7.8

The first line you have typed, will be treated as **Page Title**. You can change the Page Title at the time of saving.

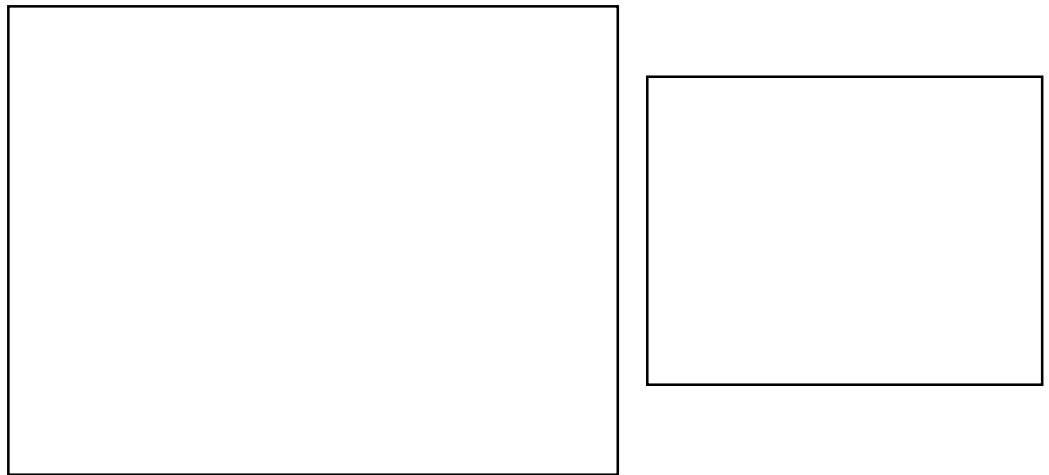


Fig. 7.9

Now you can set the Page Title with another name of your choice.

The default filename is also the first line of the page. So you can change this also by typing the name of your choice. You can also give the full pathname along with the webname if you are not

storing it in the current web. Your file will be stored with .htm extension.

- ❖ Clicking on **HTML** will show the HTML code of contents of the Page View.
- ❖ **Preview** provides the appearance of web page on Web site.

Inserting Text and Graphics through Files

- ❖ To insert Text, Click anywhere in the **Cell** and start typing. Trough file, type **Insert** → **File**
- ❖ To insert a Graphic, click mouse at a place where the graphic is to be inserted then click on **Insert** → **Picture** → **File**

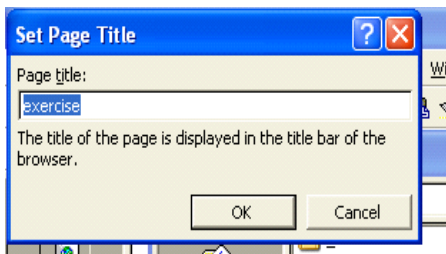


Fig. 7.10

Saving a web Page

For saving a web page, select **File** → **Save As**

Type the filename. The page will be stored in the current web. You can also give the full pathname along with the web name if you are not storing it in the current web. The web page file will be stored with .htm extension.

Save Items added to Web Page

1. If you have added sound/video files, graphics and other objects in the page, then you will be prompted to save them by **Confirm Save** dialog box to the same location.
-

2. To save all times without being prompted click on **Yes to All**. If you want to get prompt each time to save individual item, click on **Yes**.

When you are saving a file, observe the **Change** button.

By clicking the Change button, you can change the Title of The Page otherwise it will be saved as the written in the first line of the page.

Saving a web page opened from outside

If a web page is opened from an outside page i.e. WWW, then click on **Save As** and type the filename with which you want to save the contents. You can also type the full pathname where you want to save the pages.

Close a Web Page

To close the current web page, select **File → Close**

Or

Click Close **X** on the Page Title Bar. If any changes done are not saved then you will be prompted to save your work as shown.

Click **File → Exit** will close the file and FrontPage software.



Fig. 7.11

Open a Web Site

Few options for opening a website are:

1. Click on Preview mode at the Task windows bar of FrontPage. The will open the current web site.
 2. A website can be opened using a Web Browser like Netscape, Internet Explorer etc. Click the Internet Explorer icon on your windows desktop. At address bar, type the full
-

pathname of homepage of your website e.g.
c:\web2\main.htm

3. To open a web site, first open the **Web** in which all your web site related files are stored.

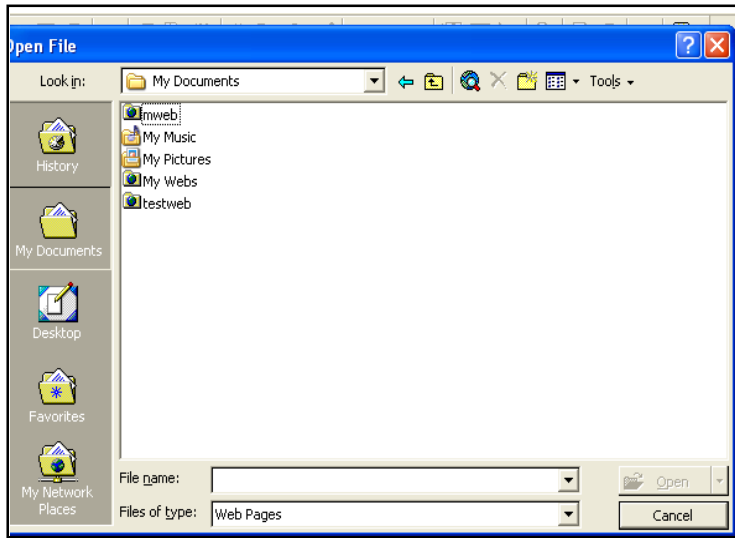


Fig. 7.12

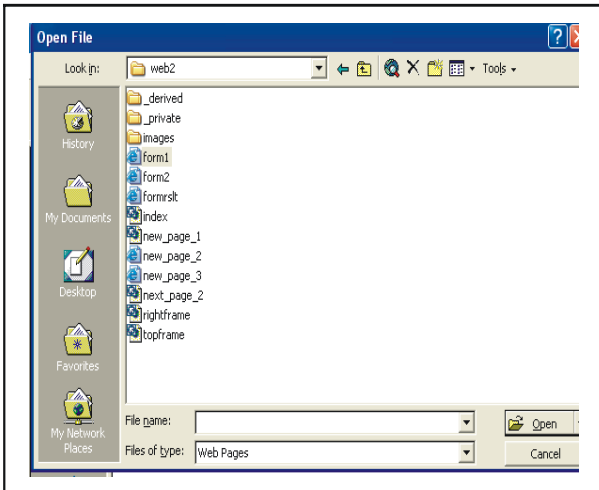


Fig : 7.13

File → Open → type fill pathname or select the Browse button to choose the location of file. After modifications, save it.

Remember the contents of Home Page are stored in Index.htm file. This is the first file being opened by the browser. It is the default page of html. Whatever name is given to website, it searches for Index.htm first.

INTEXT QUESTION

1. Fill in the blanks:
 - (a) The opening window of FrontPage opens in _____ view.
 - (b) _____ view displays structure of web like an organizational chart.
 - (c) The web pages created are stored in default directory _____.
 - (d) _____ , _____ and _____ are three modes on FrontPage window screen.
-

7.5 THEME

Theme is used to insert pre-designed background and graphic styles in a web page. Theme consists of backgrounds, navigational buttons, fonts and colors. To insert a Theme, Click

1. **Format → Theme**



Fig : 7.14

2. You can apply Theme to **All pages** or **selected pages**.
3. Click OK.

For inserting Background images, select only Background picture option in above window.

Using colors

Select the object you want to color. Then click on **Highlight Color** icon on toolbar.

7.6 HYPERLINKS

Hyperlinks are links to another location in the current document, file, page on the World Wide Web. When users click on a hyperlink, they are transported to another link. Hyperlinks are useful for visit i.e. navigation from one page to another or one site to another site or from one URL (Universal Resource Locator) to another locations. You can surf the site very easily if convenient Hyperlinks are available on it. To insert a Hyperlink,

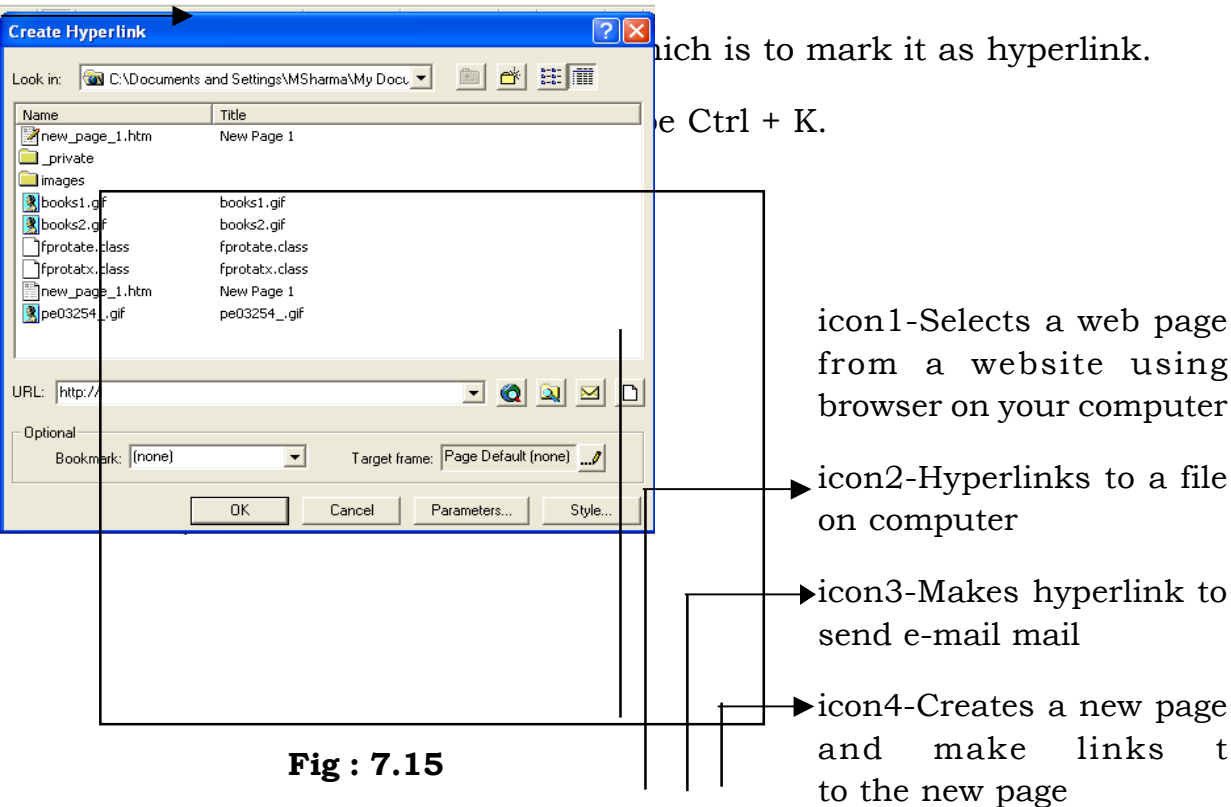


Fig : 7.15

3. Choose the desired option or type the address of webpage in URL or type the full path name of the file to be linked and click OK.
4. Select the Target Frame name (discussed later) where you want to display the contents of Hyperlinked item.

The selected text/graphic will be underlined and withh blue color to indicate a hyperlink.

5. To **edit** Hyperlink, right click the mouse. Choose **Hyperlink Properties**. The Edit Hyperlink dialog box is displayed. Repeat steps 1 to 4.

Example

Let us discuss Hyperlinks in following figure:

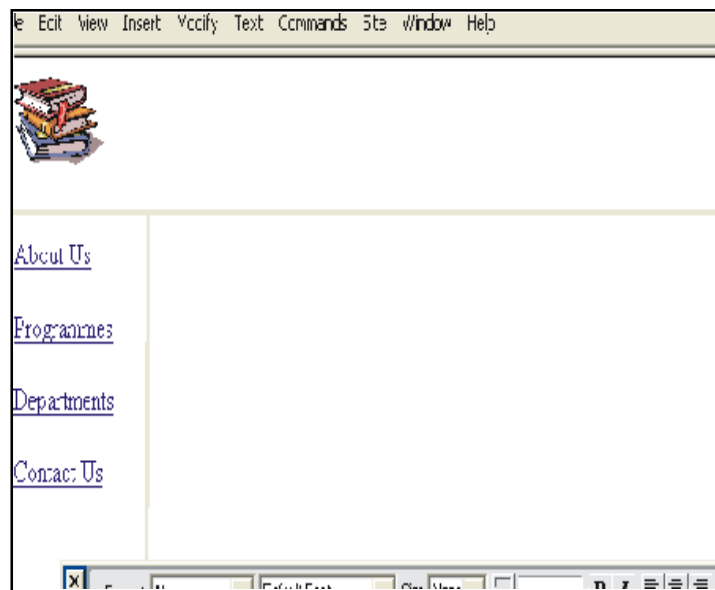


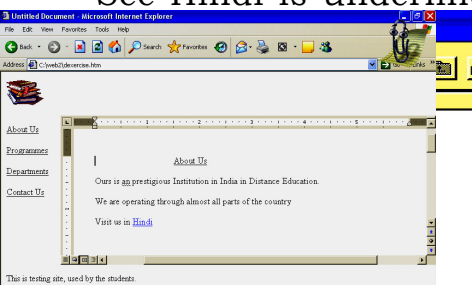
Fig. 7.16

In above window, Hyperlinks are inserted to the headings About Us, Programmes, Departments and Contact Us. Suppose the text to be appeared on clicking *About Us* heading is stored in a file `c:\web2\about-us.htm`. When the heading *About Us* is hyperlinked by pressing Ctrl+K, in URL type `c:\web2\about-us.htm`. So the heading *About Us* is linked with the file `c:\web2\about-us.htm`



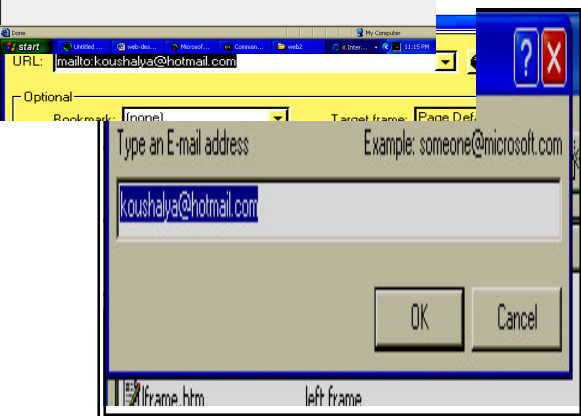
Fig. 7.17

When you open this website in your browser like Netscape or Internet Explorer , the above window will be displayed. Further *About-us* page shows a hyperlink to the word Hindi. Hence there must be some other page containing the details of Hindi topic. See Hindi is underlined with blue color. When you open the browser, clicking on Hindi will open another



to Contact Us heading

Click on Contact Us and type Ctrl+K. Click on icon-4



The Edit Hyperlink Windows is displayed as

Fig. 7.18

Fig. 7.19

Testing Hyperlink

To test a hyperlink, place mouse on the hyperlinked text, the mouse pointer will change to hand symbol. Click on it to activate it. If the link is on the local hard disk then file application will launch and the file will be displayed. If the link is on Internet, the default browser will activate and prompt you to connect to Internet.

Linking existing pages from WWW and new Pages

You can link existing pages of website from Internet. For example, if you want to display website of NIOS. Select the word NIOS. Then InsertàHyperlink. In URL, type <http://www.nios.org> and click OK. See figure below.

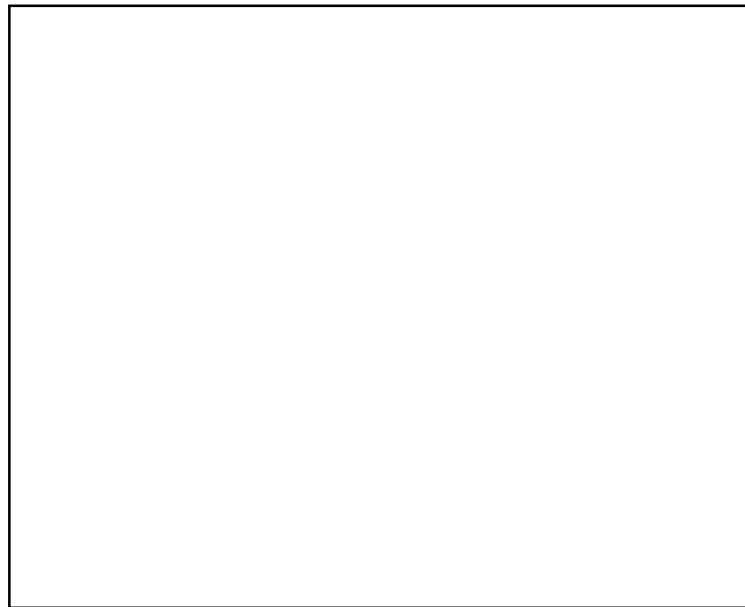


Fig. 7.20

A hyperlink is inserted at word NIOS with an underline and a color. When you bring mouse on it, it shows a hand like symbol. To see the results, click on Preview at the task bar and then click on NIOS.

To link New Pages to your website. Select the text/graphic to mark as hyperlink. In hyperlink option, click on icon4 in URL section. This will create a new page. You can type text and insert

graphics here. Now click on to your home page i.e. index page. Click preview mode from task bar and click on the hyperlinked text/graphic to display the contents of newly created page.

Bookmarks

Sometimes a User wants to access the required information instead of accessing the long documents containing that information. Hence a Bookmark is created for the selected text (paragraphs) and a name is allotted to this selected text. This Bookmark name is underlined with a dashed line. On previewing in web browser, the underline will not be displayed. To insert the Bookmark,

1. Select the text which is to be book marked. This is the place where user will reach on clicking the bookmark.
2. Click **Insert** → **Bookmark**. Now click OK.

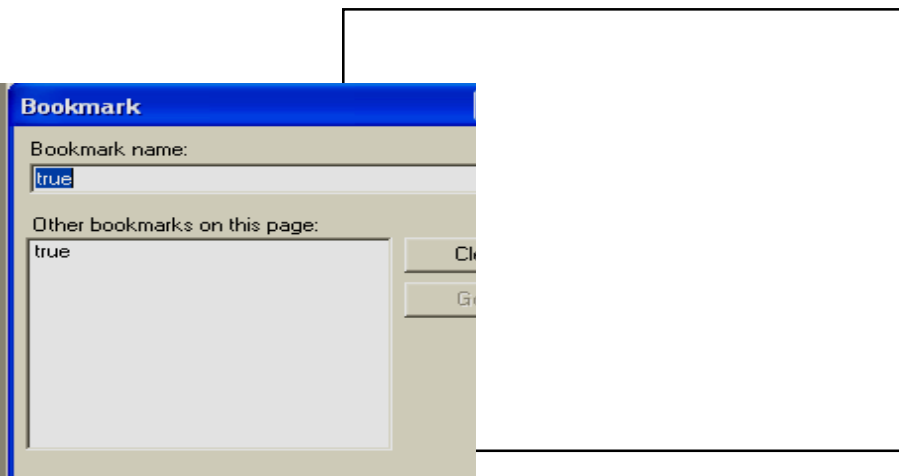


Fig. 7.21

INTEXT QUESTIONS

2. Fill in the blanks:
 - (a) .wav is the extension of _____ files.
 - (b) _____ are used to visit pages and other destination to current or other web sites.
-

- (c) Theme is used to _____ pre-designed graphics in webpage..
 - (d) A _____ text is underlined with dash.
3. Write True or False for the following :
- (a) Graphics can not be hyperlinked.
 - (b) Navigation view displays the web structure.
 - (c) Bookmark is used as hyperlink to reach the details of the bookmarked text.
-

7.7 INSERT IMAGE

Graphics/Images are very important components of web designing. These make the web site more appealing and attractive and provide easy and effective reading. After all, the visual impact remains last long in human's memory. Let us discuss about Graphic and some operations on them in this section. The graphics files uses extension as .gif, .jpeg, .tiff etc. These can be inserted from web site using web browser or from your computer files.

A. Inserting Graphics in Web Page

Option 1 A graphic file can be inserted using Insert → Picture → File

Option 2 Cut and Paste method

- Select any graphic by clicking mouse on it. Press **Ctrl Key + C** to copy it.
 - Place the cursor where you want to insert the graphic. Press **Ctrl + V**.
 - Now right-click the graphic and click on Picture properties. Click on **Appearance** tab. See the figure.
-

Link address on WWW.

or

On selecting the check box **Get information from**

Another page and clicking **Browse** allows to select a file from current web only.

- To display the image as watermark, click the **Watermark** check box.
- Select any **Background Color** from the drop down box.
- Click **Browse** to select the picture. You can select the picture from your local hard disk, Clip Art, WWW etc.
- Click **OK**.

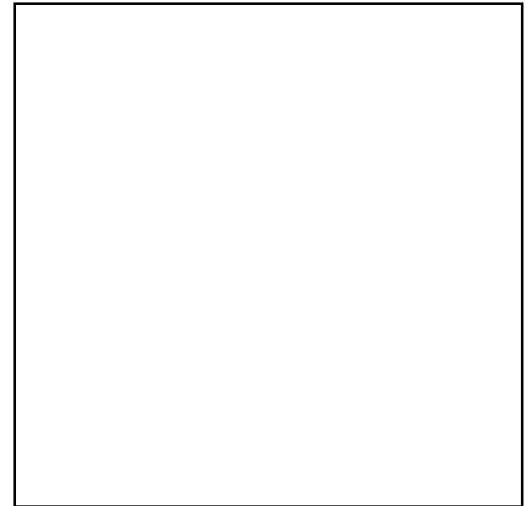


Fig. 7.23

Try out

In format→background, type any sound file name from

\windows\media*.wav, and give no. of loops as 20. Now

Preview the home page/index file. A background sound will play.

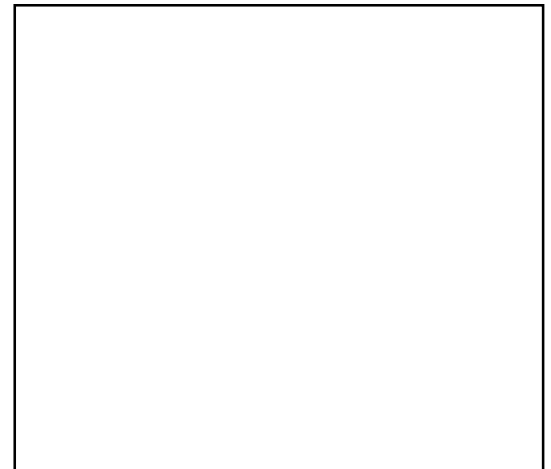


Fig. 7.24

B. Formatting Graphics

Graphics needs to be formatted and placed according to the

requirement and limitations of space on your web page. Few methods of positioning graphic are:

(1) Picture Toolbar

The Picture Toolbar a set of tools required for editing and making fine adjustments to graphics. It is very useful while working with Graphics. Place mouse on each of these icons to see their purpose. **View → Toolbars → Pictures** will display it on screen.

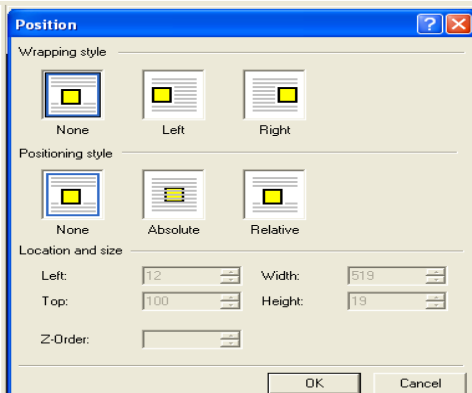


Fig. 7.25

For example, to Rotate the picture on left, click on picture and click on **Rotate Left** icon on Picture toolbar.

(2) Sizing graphic using Mouse

- Select the graphic.



on handles of
shape it in the

from various
text around

Fig. 7.26

graphics.

- Click the graphic at its position.
Click **Format → Position**
- Select any **Wrapping style** option
- Select a **Positioning Style** option



Fig. 7.27

- **In Location and Size**, type the required values for Left, Width, top and Height boxes.

(4) Adding Text to Graphics

Select the graphic to which the text to be added.

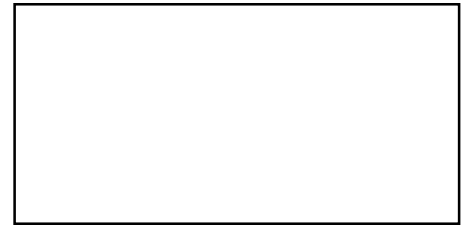


Fig : 7.28

- Click **Text** with symbol as **A** icon on picture toolbar.
- A text box with blinking insertion point appears in the middle of the graphic. Click inside the box and start typing Text. See figure.
- You can drag the text box to accommodate the text.

(5) Cropping Graphics

This is most commonly used activity while working with graphics. The graphics you import from clip art or any other file needs to be adjusted on your web page. Cropping means cutting the graphic from top, left, right and bottom so that it can fit at an appropriate place on the web page. To crop a graphic,

- Click the graphic. You will see the handles around four corners of the picture. Also, the picture toolbar will appear on the screen.
- Suppose you want to crop this picture from right. Click the Crop tool from toolbar. The cursor will change like crop tool symbol. Place this symbol on the right handle of the graphic and drag it towards left to crop the graphic from right side.



Fig. 7.29

- Like this you can crop the graphic from all corners by dragging the handles with crop tool cursor.

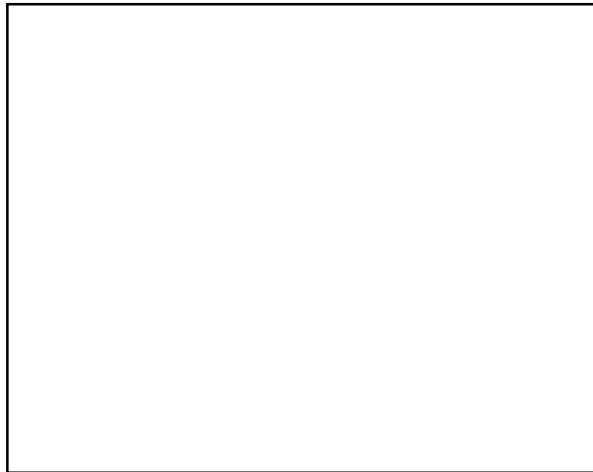
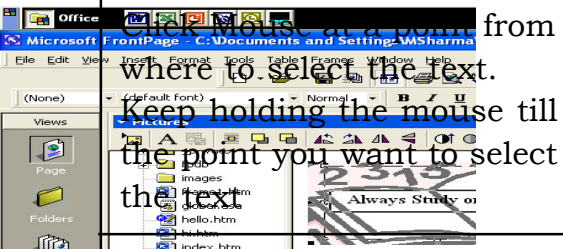


Fig. 7.30

Some Short cuts for Formatting Text

Commands	Action
	Selects text. Selected text displays in reverse video.
Edit→Cut Edit→Copy Edit→Paste	Deletes the selected text Copies the selected text Pastes the deleted/copied text at cursor point
Insert→File	Inserts a file at cursor point
Select text. Format→Paragraph. Choose Left, Right, Center	Aligns text
Edit→Undo	Restores last operation back

Edit→Redo	Restore the operation given before Undo operation
Insert→Break	Inserts a Line break at cursor point
Edit→Find	Finds character/string. On choosing Replace option, the searched character/string is replaced by the given text
Edit→Delete	Deletes the selected text
Format→Font	Displays character in different styles, sizes
Click on Color icon on toolbar, choose color	Changes the color of selected item
Insert→Symbol	Inserts special characters
Tools→Spelling	Checks the text for Grammar
Format→Bullets and Numbering	Allows to write text as headings, sub headings etc.

7.8 WORKING WITH TABLES

A Table is used to arrange the information in rows and columns. It is also used to add text, graphics and numeric data.

Draw a Table

From Toolbar, click on Draw table icon. Place mouse on Number of rows/columns to include on your table. A Table will be displayed on the screen.

Or

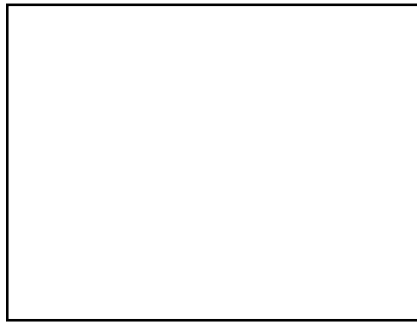
Select **Table → Insert**

Type number of Rows and Columns. The Rows/Columns can be added/deleted.



Fig. 7.31

Or
Table operations can be performed
from tables Toolbar. To view
Tables toolbar, click



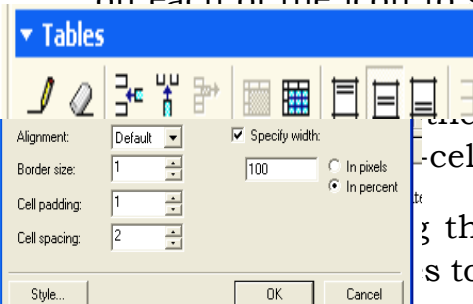
View → Toolbars → Table

Fig. 7.32



Fig. 7.33

The Pencil icon on above toolbar allows to draw a Table. Click
on each of the icon to see its function.



ing, drag down in right direction to create
the table. Now release the mouse. This will
-cell table.

y the left mouse button, draw vertical and
s to divide it into desired number of rows and

columns.

- Click mouse on **Draw Table** icon in the Table toolbar to
deselect it.

Table Operations

Be sure that the cells are selected before giving the following
commands:

Command	Action
Table → Select → Merge Cells	combines more than one cell(s) to a single cell.
Table → Select → Split Cells	divides cell to desired number of cells.
Table → Insert → Rows above	Inserts a Row above the selected Row
Table → Insert → Columns above	Inserts a Column above the selected Column
Table → Delete → Table	Deletes a Table.

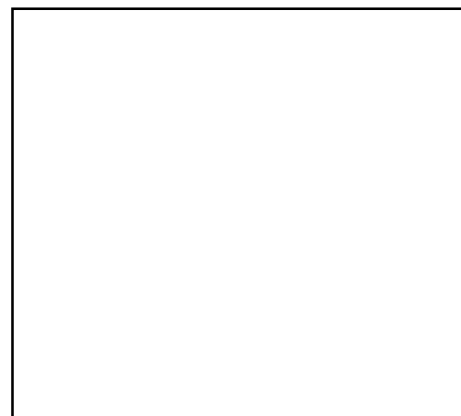
Similarly check for other options.

7.8.1 Table Properties

To change the appearance of the Table, you can set the

Table properties by right clicking the mouse anywhere on the Table.

Fig. 7.34



Cell Properties

To change the appearance of the Cell, you can set the Cell properties by right clicking the mouse anywhere on the Table/ Cell.

Fig. 7.35



7.8.2 Import Data into Table from Excel

Suppose you have an Excel file (.xls) and you want to bring this data into a Table in web page. To do so:

- Create a Table on web page.
- Select the Table.
- Now **Insert → File** . Type the Excel filename. The data will appear in rows/columns.

Command Action

Insert → Component	Inserts Spread Sheets, Charts in web page
Table → Convert → Text to Table	Converts Text into a Table
Table → Convert → Table to Text	Converts Table data into a Text format

INTEXT QUESTIONS

4. Fill in the blanks:
 - (a) _____ controls on Picture toolbar is used to change the appearance of the graphics.
 - (b) The extra portion of a graphics can be removed using _____ tool.
 - (c) A Table is a collection of _____ and _____.
 - (d) _____ combines two or more cells in a Table.
 5. Write True or False for the following :
 - (a) You can resize the graphic by dragging it with mouse.
 - (b) Graphics can't be inserted in Tables.
-

- (c) .Gif and .jpeg are extensions of a graphic file.
 - (d) You can wrap Text around Graphics on a web page.
-

7.9 FRAMES

Frames allow to display more than one pages at a time. A Frame Page is a Web Page consisting of pages that display in their own frame. It divides the browser window into areas to be used for different purposes. For example, main document, content page, page banner etc. which can be used to present different information in different areas. In general when you open a web site, you might have seen one frame on the left containing hyperlinks from where a visitor can access other information. Also you have noticed another frame on the right containing the detailed information about the link on the left side. You might have observed the Logos, Banners, Ads on the top of the website. These are also put in a separate frame. A web designer can arrange the information in a desired way.

Creating a new Frame Page

1. Choose **File** → **New** → **Page**
2. Click on **Frames Pages** tab.
3. Select the required Frame Page style and click OK.

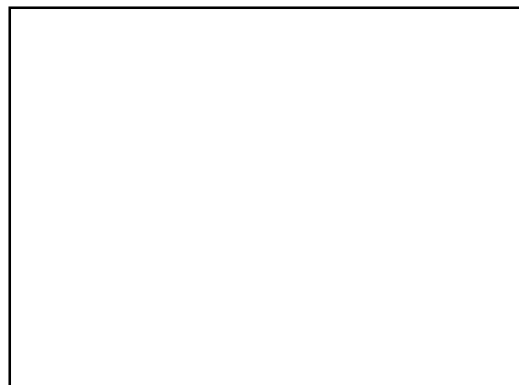


Fig : 7.36

It will be opened in Normal View. Click on each Frame Style and see its description and design in Preview window on the right. If you select **Banner and Contents Frame** page, the screen Displayed as:

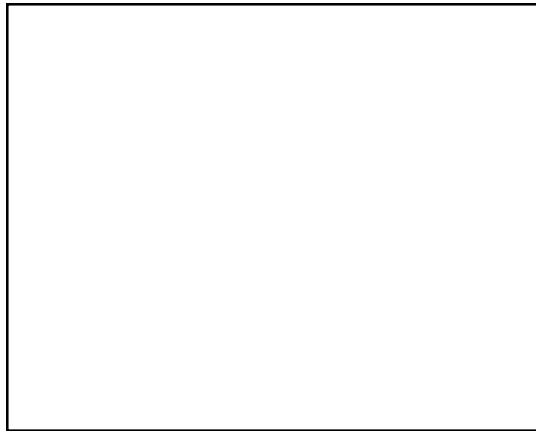


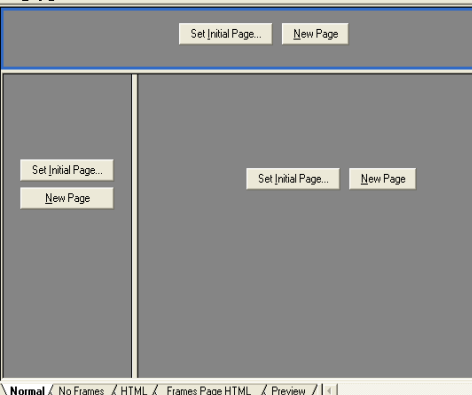
Fig : 7.37

Setting Pages to display in Frames

In displaying the pages under frames,

Set Initial Page... button allows to select a file from your local hard disk and web page from web site. You can also type link address in URL text box.

New Page button creates a new blank page. You can type text/contents here.



each frame in a separate file, each Frame different name. For example, top, bottom, can be saved with different name as lframe.htm and rframe.htm respectively. mouse in the desired frame, then **File** →

Save. Give a filename. These files will be stored in your current web.

- Click each of the frame file separately and see its contents.

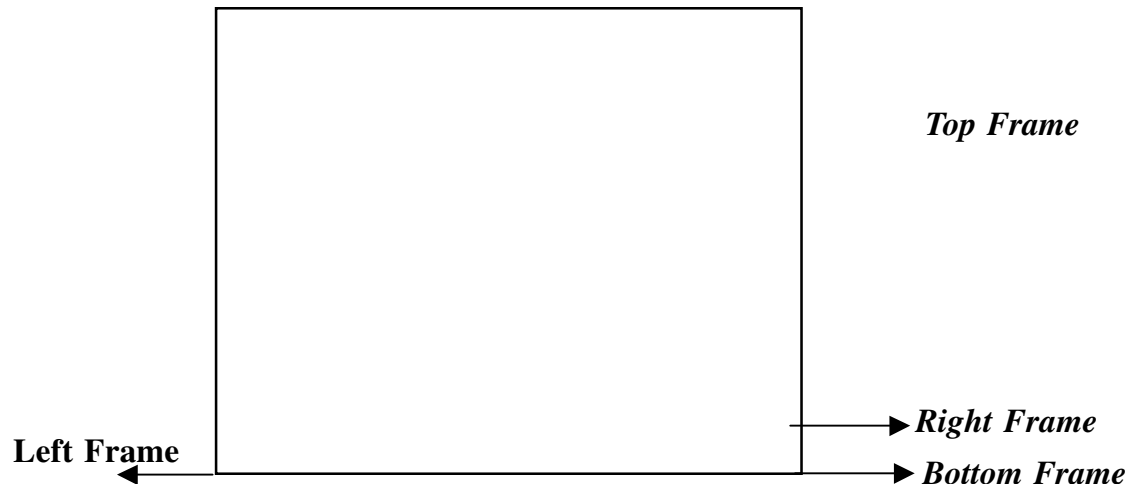


Fig : 7.38

Frame Types

When a hyperlink is pressed, the information related to it is displayed. A user can decide where this information is to be displayed. There are basically two types of frames :

1. **Parent Frame**

It displays the information in the same frame as the frame of the hyperlink item i.e. in the home page frame.

2. **Target Frame**

It is a frame where the information of the hyperlink item is displayed in a frame other than the parent frame.

Commands to remember

Command	Action
drag the boundary of frames using mouse	change the size of Frames by in upward/downward and left/right directions
Frame → Split Frame → Split into Rows	splits the frame into 2 rows
Frame → Split Frame → Split into Columns	splits the frame into 2 columns
Frame → Delete	deletes a frame

See the splitting of frames into columns.

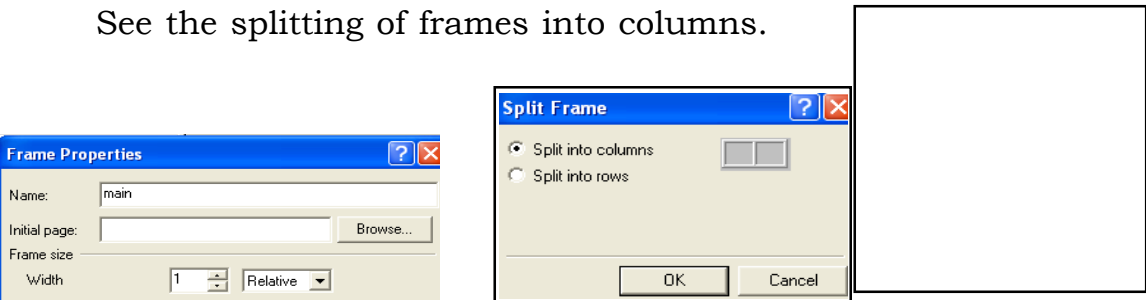


Fig : 7.39

You can define your own frame settings in the **frame properties** dialog box as shown below:

1. **Frame → Frame Properties**
2. Type the frame name in **Name** box.
3. In **Initial page** box, type **URL** or click **Browse** to

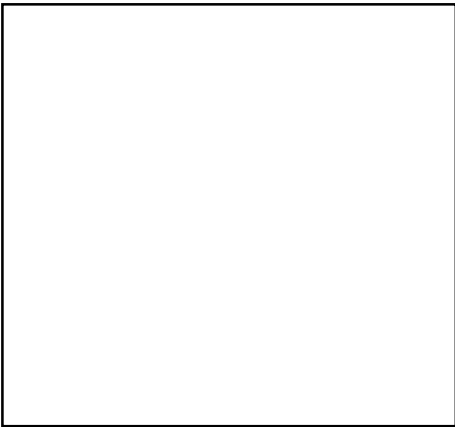


Fig : 7.40

change the first page displayed in the browser.

4. Select the **Frame size** in **Width** and **Row Height** boxes.
Relative : relative to other frames in same column
Percent : percent of size of window in a web browser
Pixels : select the appropriate number
5. Select the appropriate **Width** and **Height** range in **Margins**.
6. Select **Resizable in Browser** so that on browsing, visitors site can resize the selected frame.
7. Under **Show Scrollbars**, choose any one of the (i) If needed (2) Never(3) Always depending upon the usage.
8. In **Frame Pages**, select the required settings.
9. Click **OK**.

7.10 CREATING FORMS

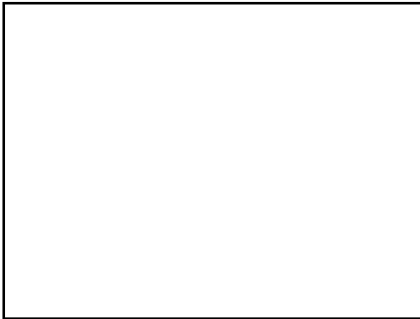
A Form is a collection of fields for gathering information. The visitors on web site can fill the entries in the Form. After filling the complete entries in the Form, the visitors have to click the **Submit** button to save the details. The data will be stored in server depending upon the handler used. Forms are added to web site for applying more controls.

7.10.1 Creating a Forms using Form Wizard

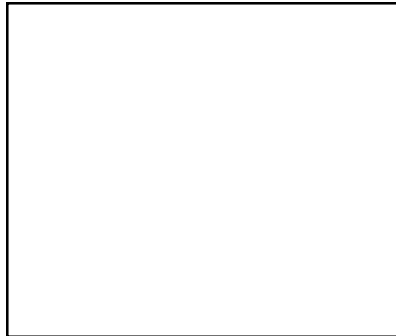
In this section, we will discuss how to create a sample Form on web page to capture information.

The form will include only those options which are pre-designed in the software. To begin with,

Choose, **File** → **New Page** → **General** → **Form page Wizard**



Click **Next** button



Click **Add** button

Fig : 7.41

Select say **contact information** Click **Next** button

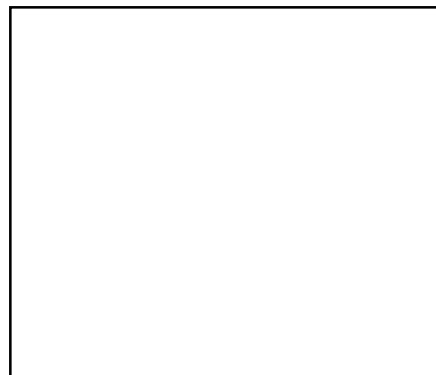
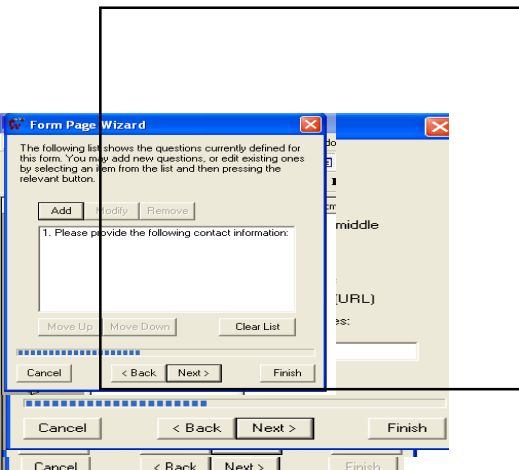
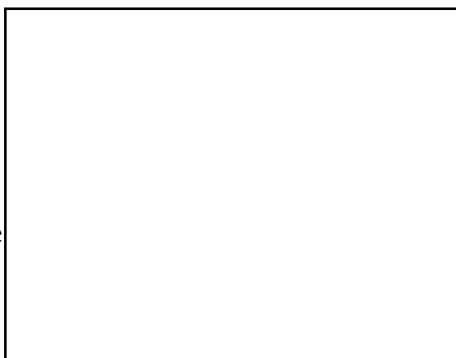


Fig : 7.42

Click **Next**

You can
change the
name of the
variable



Click **Next**



Fig : 7.43

To add more information, click **Next**
→ **Add**

Click on **save results to a text file**.

You can add the filename to store
the results of the Form in it.

(default is **forms1t.txt**)

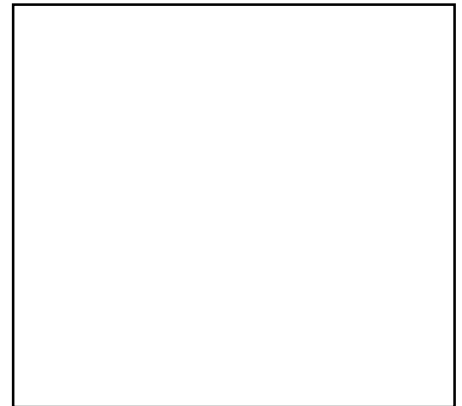


Fig. 7.44

Then Next → Finish

The default form is displayed as



Fig. 7.45

You can change the headings in the text box by selecting the text
and typing again.

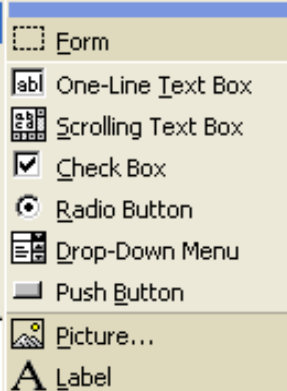
Now save the Form as **File** → **Save** Give a filename to it.

Click the **Preview** mode to test it. Type the required information
and click on **Submit** button at the bottom of the Form. This will
save the information.

Clicking on **Reset** button erases all the current information give on the form i.e. clear the Form.

Various Form types in FrontPage are:

Form Types	Functions
Form Handler	sends Form Results (data) to a text file, database or e-mail address
Discussion Form	It allows user to type their comments on web.
Search Form	allows visitors to search information on web
Multi-user Authoring	allows various users to edit, author the same web simultaneously.
Remote Authoring and Administration	allows web masters to edit and manage a website directly on web.



Customize a Form

To customize a Form on web page depending upon the requirement and ease. To create a form,

1. Click mouse at place where you want to insert the Form. Then **Insert** →

Form

2. From following options, choose the desired one

- **Form** inserts a form with **Submit** and **Reset** buttons. If items on page are selected when this command is used, the items are enclosed in form.

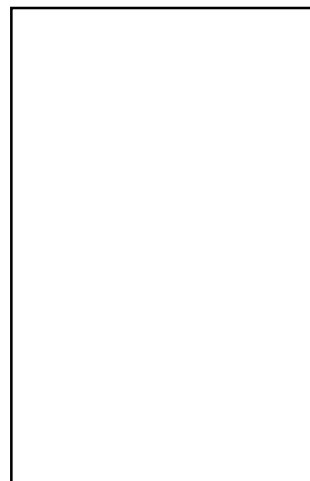


Fig : 7.46

- **One-Line Text box** accepts information in one line only.
- On inserting a **Scrolling Text box**, a user can scroll down the Information (upward and downward movement of the box using mouse)
- **Check Box** checks the existence of an item(s) from the available list, can be selected more than one.
- **Radio Button** is used to choose one item at a time from the available list.
- **Drop Down Menu** shows a list of available options.
- **Push Button** can be configured to Submit and Reset button.
- **Picture** creates a picture form field at insertion point.
- **Label** makes the label of a form field to click i.e. heading for a Form Field.

Try out

To play a sound file using a Button

1. Create button using **Insert → Form → Push Button**
2. Right click it and in Form Field Properties, In Label box, give the heading as 'Sound'
3. Right click Form → Page Properties → give the location of required file e.g. Sound file with extension as .wav and give a loop of say 20. So the sound file will be played 20 times.

Design a sample Form

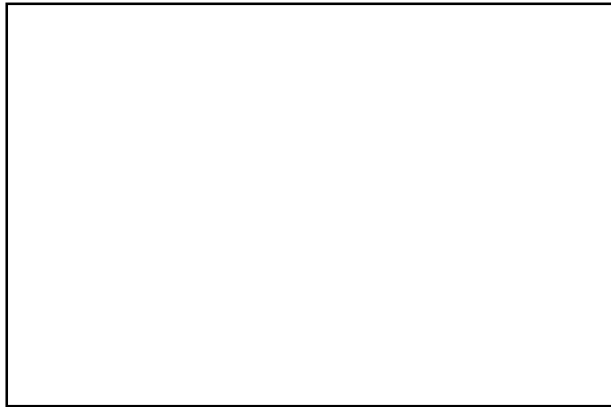
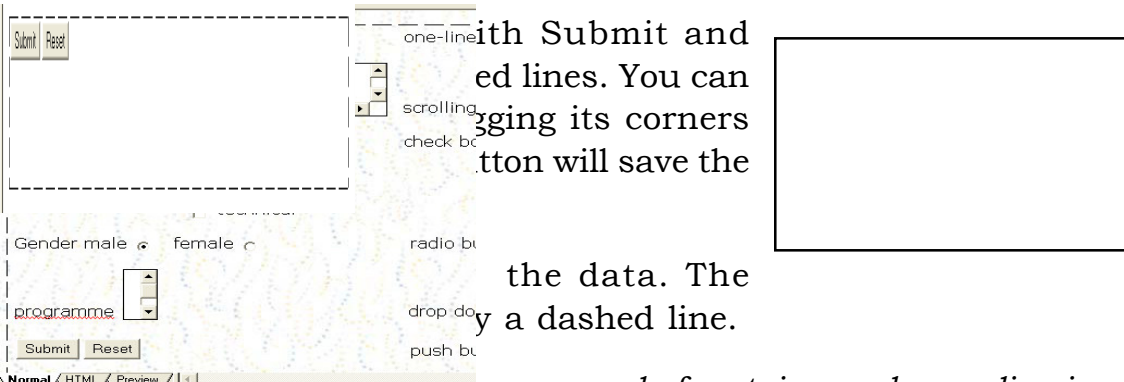


Fig. 7.47

The above figure shows a sample form created by using most of the tools of Form.

Click **Insert** → **Form** → **Form**



with Submit and
ed lines. You can
gging its corners
tton will save the

the data. The
y a dashed line.

For convenience, Press one space before tying each new line i.e. at cursor point and press Enter key at the end of each line but not necessary.

Steps for creating above Form,

- Line 1 Type 'enter name'. Insert → Form → click on One-line Text box
- Line 2 Type 'enter your query '. Insert → Form → click on Scrolling Text box

- Line 3 Type 'enter qualification'. Insert → Form → click on Check Box
- Line 4 Type 'Gender'. Insert → Form → click on Radio Button
- Line 5 Type 'Programme'. Insert → Form → click on Dropdown box
- Now, to enter Push button, Insert → Form → Push Button
- To make it a Submit button, right click Form Field properties and select Submit radio button.
- Similarly, insert another button and choose its properties as Reset button.

Storing Form Results

FrontPage generates a confirmation page Right click on Form and click on Form Properties.

Type filename to store the Results of the Form.

1. To see the Form result, In Folder's view, click to **private** folder.
2. The results are stored in form_result.txt file.



Fig. 7.48

Double click to set the exact data.

You can change the location of file where the results of form can be stored, or to store the results as e-mail. Click Insert → Form → Form Properties. Change the location of file name or enter e-mail address as in figure.

*For any other help click **F1** to search in Microsoft FrontPage Help.*

INTEXT QUESTIONS

6. Fill in the blanks:
- (a) Frames can be _____ by dragging mouse over them.
 - (b) Submit button is used to collect the information from _____.
 - (c) A _____ is used to search text in web documents on web page.
7. Write True or false for the following :
- (a) The main frame displays the information about the link pressed in content frame.
 - (b) Frames can't be splitted.
 - (c) A Form can only be created using a Form Wizard.
 - (d) A Form handler sends form results to a text file.
-

7.11 DREAMWEAVER

Dreamweaver 8 is the industry-leading web development tool, enabling users to efficiently design, develop and maintain standards-based websites and applications. It is a product of Macromedia family. With Dreamweaver 8 MX, web developers go from start to finish, creating and maintaining basic websites to advanced applications that support best practices and the latest technologies. Macromedia provides a range of products for multimedia authoring and web development. Site contains extensive documentation and support for all software. The concept of Frames, Tables, Form, Hyperlinks etc is also available in Dreamweaver. The opening windows in Dreamweaver is shown as below:

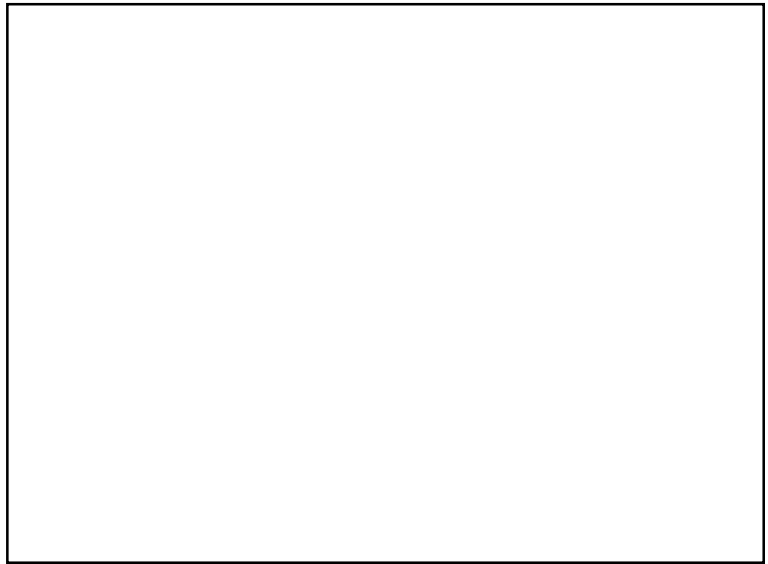


Fig. 7.49

Exercise : A sample web site is created in FrontPage as well as in Dreamweaver to give idea to students in using both the tools.

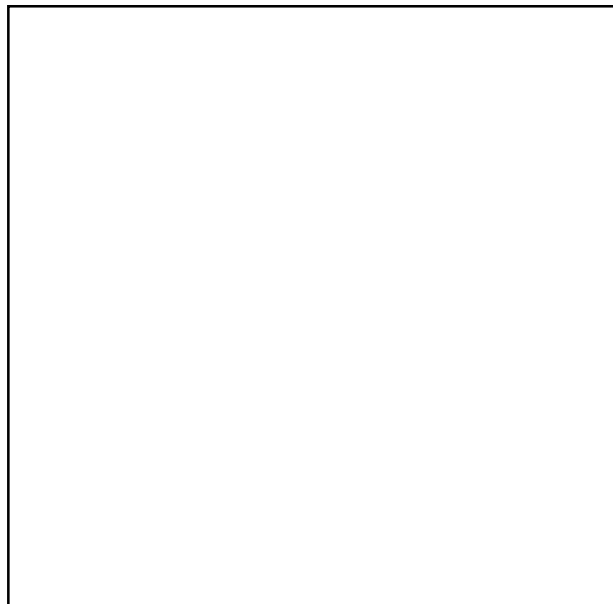


Fig : 7.50

Creating website using FrontPage

To create above sample website, the steps are:

1. Create a new web as File → New → Web. Save it with name as **test** in C:

Now your web directory is c:\test

It is preferred to create all your web pages and other files in same directory.

2. Choose File → Page → New à Frame Pages → Header, Footer and Contents

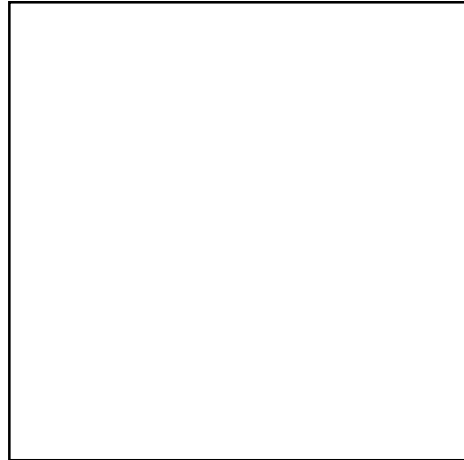
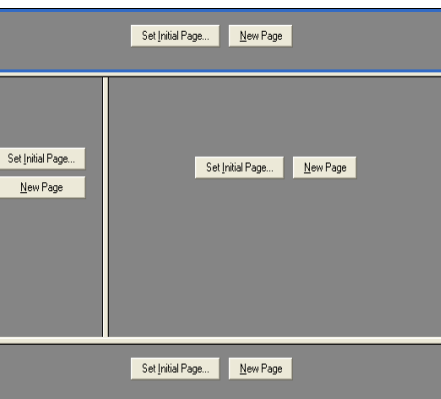


Fig. 7.51

This will partition your web page into four partitions. Save this page with name as **exercise** in c:\test



Click from ClipArt in the Top Frame as **Insert Clip Art**

Click with mouse. If can't then copy it in Paint, resize it and again copy it in the Top frame.

If graphic, type text as 'An Educational Delhi, India'

Click button in Left Frame. Type four headings

About Us

Programmes

Departments

Contact Us

Now Save the contents in left frame with filename as **leftframe.htm**

5. Type the contents of heading About Us in Notepad/MS-Word or in any editor and store it as about-us.htm file preferably in c:\test

Similarly create programmes.htm, departments.htm and contact-us.htm to store the contents of respective headings in the directory c:\test

6. To create a Hyperlink for heading **About Us**, click mouse at A and drag it till the entire heading is highlighted. Now choose, **Insert → Hyperlink**.

In URL, type the path of filename i.e. c:\test\exercise\about-us.htm

In Target Frame, select Parent Frame.

Similarly create hyperlinks for programmes, Departments and Contact Us.

6. Now Click on New Page in Right Frame. A blank screen will appear. Type 'AEA Welcomes all students'.
7. Click on New Page in Bottom Frame. Type 'This is a testing site, used by students.'

All above steps were performed in Normal mode. Now to view the website, click in Preview mode at the task bar. Click on hyperlink About Us, the contents of this are displayed on right frame.

Similarly, click on rest of the links.

*Also, You can add same or different Themes in different Frames. For example, select **Format → Theme → All Pages → Default (Arcs)** adds same background in all frames.*

*Now select only the bottom frame, select **Format → Theme → Selected Pages → Blends** adds the desired Theme in bottom frame only.*

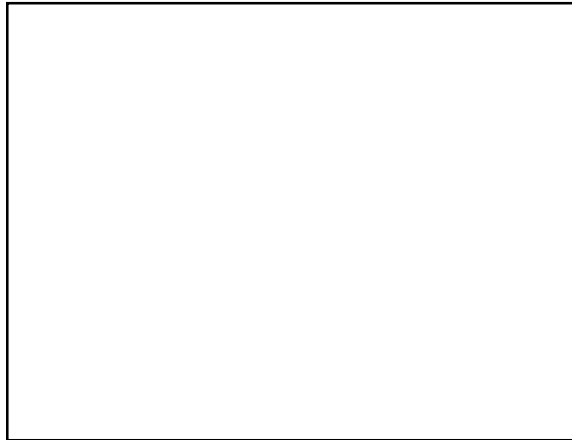


Fig. 7.52

Same exercise in Dreamweaver

Open Dreamweaver as
Programs → Dreamweaver →
Dreamweaver

1. Create Top Frame, Insert

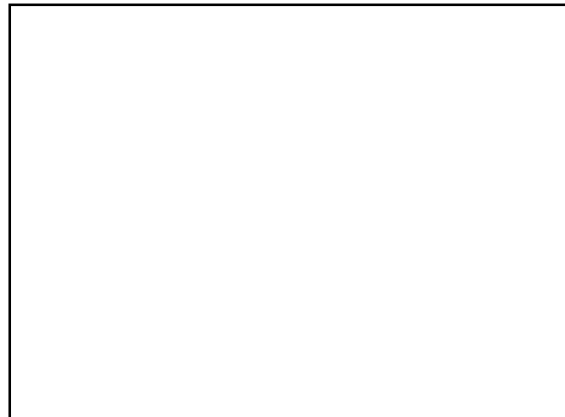
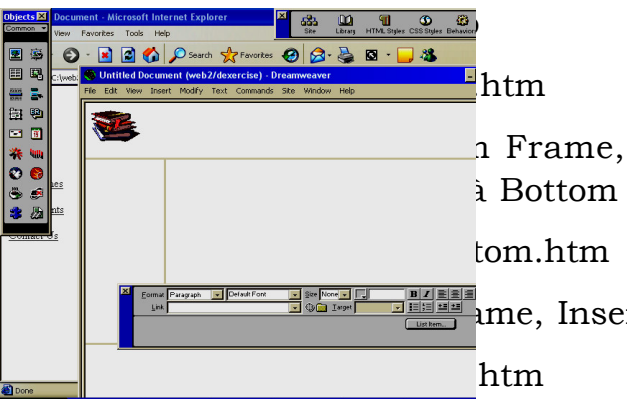


Fig. 7.53

2. To create Left Frame, Insert → Frames → Left
Save it with left.htm

4. To create Right Frame, Insert → Frames → Right
Save it with right.htm

*Object windows are opened automatically. If not then, click
Toolbars → Windows → Properties or Ctrl+F3 key.*

5. Click in top frame, Insert → Image → choose the .jif file (e.g.
books.gif)

Be sure that books.gif is already created graphics from Clip

Art

Gallery.

6. In Bottom Frame type 'This is testing site, used by the students.'

Save it with dleft.htm

7. Click in right frame. Save it with right.htm

8. In Left frame, type all the headings as

About Us

Programmes

Departments

Contact Us

Fig. 7.54

9. Create separate files for storing the detailed information for each heading namely about-us.htm, prog.htm, aca.htm
10. Select the heading About Us on left frame. In Link option, choose about-us.htm

Click on link icon and Target folder just after the Link option.

Choose Target Frame as mainframe.



Fig. 7.55

Similarly click Programme heading, choose Link as **prog.htm**, Target frame as **mainframe**.

Similarly click Departments heading, choose Link as

aca..htm, Target frame as **mainframe**.

For **Contact Us**, choose **Insert** → **Email link** → **e-mail address**

File → **Save All**

Type filename for home page as dexercise.htm. This will be your home page.

File → **Frameset** saves all frames on the webpage

Open a web site in dreamweaver

To open the website in Internet Explorer, select the hard disk drive in which exercise.htm is stored. Then click on exercise.htm

On clicking each of the links on left frame, the following windows will be displayed.

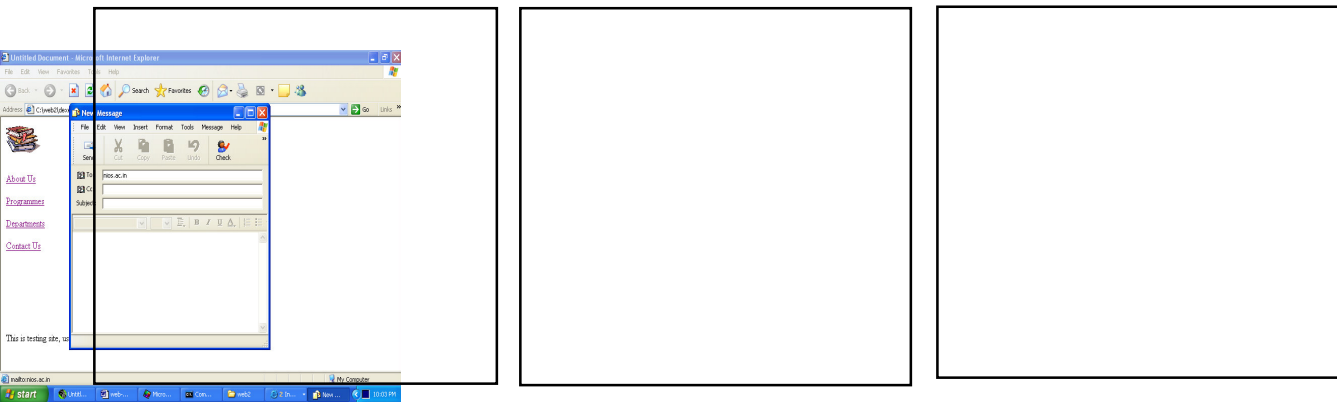


Fig : 7.56

7.12 WHAT YOU HAVE LEARNT

In this lesson you learnt about various web designing tools particularly FrontPage 2000 in detail.

Another tool, Dreamweaver is also discussed in short. Various components of FrontPage and their functions are discussed. The various views available on FrontPage like Page, Navigation, and Hyperlinks will enable you to design your website in a more

professional way. You also learnt how to build web page and web site in detail. Besides that you can import web pages from an already existing web site. You understood the concept of links and navigation.

7.13 TERMINAL QUESTIONS

1. What is the difference between a web page and web site?
2. What do you understand by Navigation?
3. How to insert a hyperlink in a web page?
4. Write the purpose of Bookmark.
5. Create a Frame page as Vertical Split type and set Initial and New Page.
6. Write the properties of Frame Page.
7. Write the difference between Scrolling text box and drop-down menu.

FEEDBACK TO INTEXT QUESTIONS

1. (a) Page view i.e. normal
(b) Navigation
(c) \...\...\My Documents\My Webs
(d) Normal, HTML, Preview
 2. (a) Sound (b) hyperlinks (c) Insert (d) Bookmark
 3. (a) False (b) True (c) True
 4. (a) Brightness/Contrast (b) Crop tool
(c) Rows, Columns (d) Merge
 5. (a) True (b) False (c) True (d) True
 6. (a) resized (b) Form (c) Search Form
 7. (a) True (b) False (c) False (d) True
-

8

Scripting

8.1 INTRODUCTION

In the early age of World Wide Web, HTML (Hypertext Markup Language) was the only language that could be used to create web pages. HTML a merely markup language and is limited to what it can do. HTML creates static web pages that have fixed contents (text, audio, and graphics). It does not allow user to interact with the web page. The increase in expectations, requirements has resulted in continual improvement of HTML and advent of powerful set of language called 'Scripting Language'.

Scripting language allows user to **create an active and dynamic web page** that can **display dynamic information** such as display an appropriate greeting – "Good Morning" or "Good Evening" depending on the time, **making web page interactive** for instance: Lets web page to ask questions and respond to how the user answers them, **validate data**: take input from the user and check the data to make sure it is valid or meets certain criteria and much more.

8.2 OBJECTIVES

After going through this lesson, you would be able to :

- write a JavaScript
- work with loop and conditional statements
- write functions and use of predefined methods
- handle JavaScript events
- differentiate between JavaScript and VBScript
- use VBScript in HTML document
- define basics of ASP

8.3 DEFINING SCRIPT

In computer programming, 'Script' is a program or sequence of instruction that is **interpreted**. This means that a program built with a scripting language must be run in the environment that contains the Script Language Interpreter (Interpreter: software program that helps to interpret the script line by line for the computer to understand and get the result).

Broadly scripts are categorized into two types:

- **Client-side scripting**
- **Server-side scripting**

Client-side scripting

Client-side scripting generally refers to the class of computer programs that are executed at client-side, by the user's web browser. JavaScript and VBScript are two widely used client-side scripts.

Server-side scripting

Server-side scripting is a program that executes at server end. It is usually used to provide interactive web sites that interface to

databases or other data stores. Some popular server-side scripting language are: ASP (Active Server Pages), JSP (Java server Pages), PHP, Python etc.

8.4 JAVASCRIPT

JavaScript developed by Netscape Communication Corporation is the most popular platform independent (run in windows, Linux, Macintosh...etc) Scripting Language. All most all browsers (Internet Explorer, Netscape Navigator) support JavaScript i.e. JavaScript Language Interpreter becomes part of browser.

8.4.1 Characteristics of Java Script

Scripts are embedded in a web page (HTML document) in specifically demarcated section. When browser encounters a script while opening a web page it calls a scripting interpreter, which parses and executes the scripting code.

JavaScript has the following characteristics:

- JavaScript is a **scripting language**.

A scripting language is a simple programming language having some limited features of full-blown programming language, easy to learn and easy to understand.

- JavaScript is **platform independent**.

JavaScript that embedded inside HTML document are not tied to any specific hardware platform or operating system and it is interpreted by all most all browsers.

- JavaScript is **object-based**.

JavaScript, depends on a collection of built-in objects (entities) for functionality

- JavaScript is **event-driven**.

It responds to user actions by the use of input devices for example: respond to the action of mouse: on mouse over, on mouse out, on mouse click.

8.4.2 Embedding JavaScript in HTML

There are two ways to use of JavaScript in HTML. One way, you can store your script in a separate simple text file and include it in your HTML document, other way, you can directly write your script inside HTML document.

The basic structure of an HTML file with JavaScript is as follows (JavaScript is indicated in bold):

```
<HTML>

<HEAD>

    <TITLE>Page title goes here</TITLE>

    <SCRIPT Language="JavaScript">
        Your JavaScript code goes here
    </SCRIPT>

</HEAD>

<BODY>

    Document Text goes here

    <SCRIPT Language="JavaScript">
        Your JavaScript code goes here too
    </SCRIPT>

    Document text here too

</BODY>

</HTML>
```

A sample HTML document embedding a JavaScript shown in Example 8.1 below:

Example 8.1

```
<HTML>
<HEAD>
  <TITLE>JavaScript Example 8.1</TITLE>
</HEAD>
<BODY>
  This Document shows the use of JavaScript in HTML.
  <BR>
  <SCRIPT language="JavaScript">
    document.write("Welcome to the world o f
JavaScript!")
  </SCRIPT>
</BODY>
</HTML>
```

‘Document’ – Predefined Java Script Object refer to the HTML document(web page).

‘write’ – It is a predefined method of document object that is used to write text to the HTML document.

The output of the Example 8.1 shown in Figure 8.1 below:

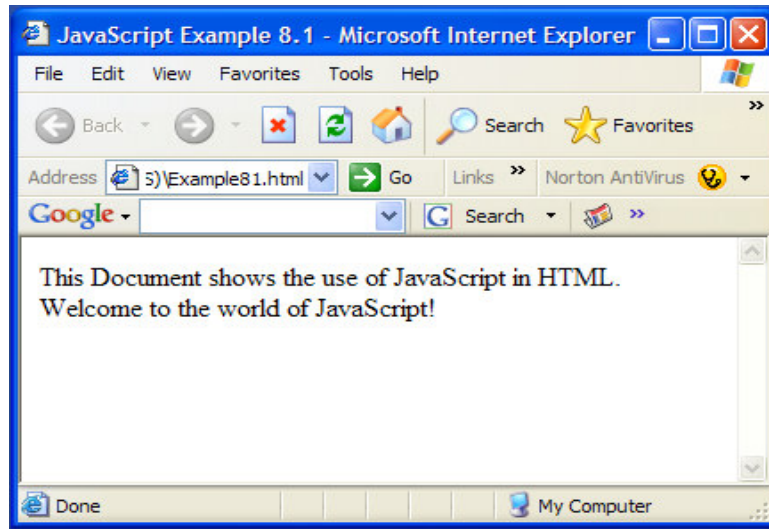


Fig. 8.1

8.4.3 Variables in JavaScript

Variables, data types, expressions and operators form the core of any programming language and JavaScript is no exception to this.

➤ **Define Variable**

Variables are storage containers to store data of various types like “computer”, 65000, and 2765.50. Like any other programming language, JavaScript allows user to declare variables and use the values stored in them.

Variable names in JavaScript can begin with an uppercase letter (A–Z), lowercase (a–z), or underscore (_) character. The rest of characters may be letters, the underscore character, or digits (0–9). JavaScript is case sensitive, the variable result not same as ‘RESULT’.

➤ **Variable Data Types**

In JavaScript, variables can store following data types:

Data types	Examples
Number	Store numeric value(for example: 3, 3.5)
String	Store alphanumeric characters(for example: "computer", "555-123")
Boolean	Store true or false values only

➤ Declaring Variables

In JavaScript, you can declare a variable using the *var* keyword, as shown in below:

```
var itemName;
```

```
var itemPrice;
```

You can also assign a value to the variable at the time of declaration. For example: `var itemName="computer", var itemPrice="35000"`

➤ Arrays

Arrays are used to store a sequence of values of same data type. These values are stored in the indexed location within the array.

For Example: If you want to store three items of the same type, you can create an array with the name of the items and store their values in the same.

The following statement declares an array of length 3:

```
itemNamees=new Array(3)
```

Three item Names can be stored by using the following statements:

```
itemNamees[0]="Computer"
```

```
itemNamees[1]="TV"
```

```
itemNamees[2]="Radio"
```

The same can also be declared as follows:

```
itemNames= new Array("Computer","TV","Radio")
```

To access the names stored in the array, you can use the following statements:

```
document.write(itemNames[0])
```

```
document.write(itemNames[1])
```

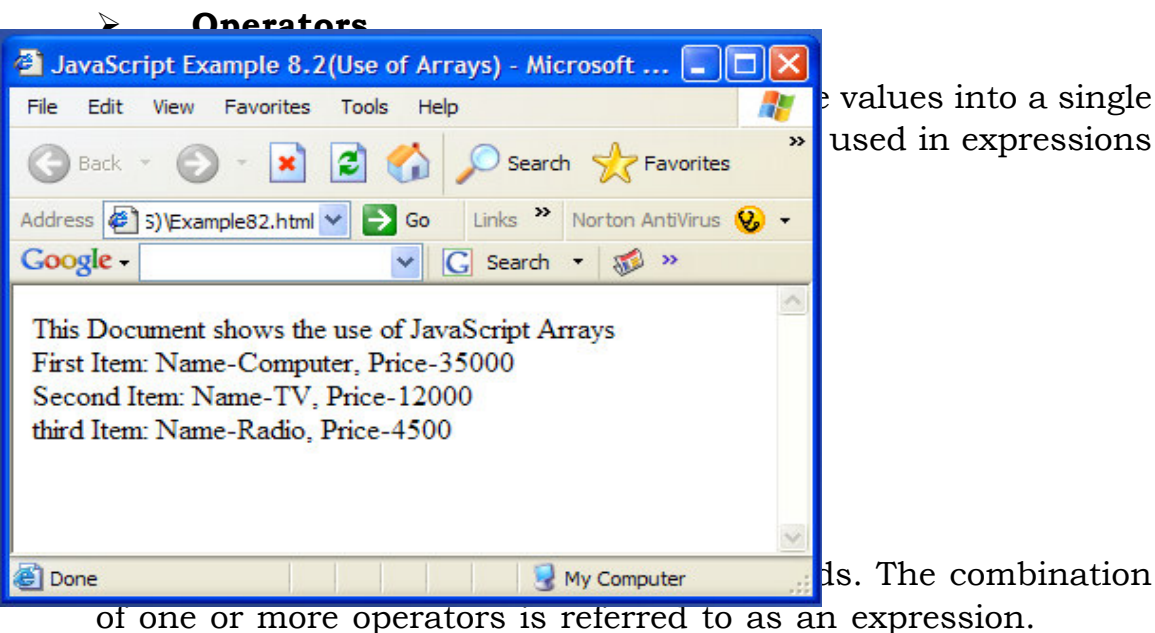
```
document.write(itemNames[2])
```

An example 8.2 shows use of arrays.

```
<HTML>
<HEAD>
    <TITLE>JavaScript Example 8.2(Use of Arrays) </TITLE>
</HEAD>
<BODY>
    This Document shows the use of JavaScript Arrays
    <BR>
    <SCRIPT language="JavaScript">
        itemNames=new Array("Computer","TV","Radio")
        itemPrices=new Array(35000,12000,4500)
        document.write("First Item: Name-" + itemNames[0]+", Price-"
        "+itemPrices[0])
        document.write("<BR>")
        document.write("Second Item: Name-" + itemNames[1]+",
        Price-" +itemPrices[1])
        document.write("<BR>")
        document.write("third Item: Name-" + itemNames[2]+", Price-"
        "+itemPrices[2])
    </SCRIPT></BODY></HTML>
```

The output of the Example 8.2 shown in Figure 8.2 below:

Fig. 8.2



For example: `netPayment=netPrice+salesTax`

In this example "+" operator operates on operand `netPrice` and `salesTax` and its result assigned to variable `netPayment`.

The following table shows the list of operators used in JavaScript:

Category	Operator	Name/Description	Example	Result
Arithmetic	+	Addition	3+2	5
	-	Subtraction	3-2	1
	*	Multiplication	3*2	6
	/	Division	10/5	2
	%	Modulus	10%5	0
	++	Increment and then return value	X=3; ++X	4
		Return value and then increment	X=3; X++	3
	—	Decrement and then return value	X=3; —X	2
		Return value and then decrement	X=3; X—	3
	&&	Logical "and" evaluates to true when both operands are true	3>2 && 5>3	False
Logical		Logical "or" evaluates to true when either operand is true	3>1 2>5	True
	!	Logical "not" evaluates to true if the operand is false	3!=2	True
Comparison	==	Equal	5==9	False
	!=	Not equal	6!=4	True
	<	Less than	3<2	False
	<=	Less than or equal	5<=2	False
	>	Greater than	4>3	True
	>=	Greater than or equal	4>=4	True
	+	Concatenation(join two strings together)	"A"+"BC"	ABC

8.4.4 Expressions

An expression is a part of statement that is evaluated as value. An expression can be any combination of variables, operators and other expressions. In JavaScript there are four types of expressions:

- Assignment expression
- Arithmetic expression
- String expression
- Logical expression

Assignment expression

This expression is used to assign a value to a variable.

Example: avgMarks=55, the value 55 has been assigned to the variable avgMarks using assignment operator (=)

Arithmetic Expressions

Expressions in which arithmetic operations are performed are called arithmetic expression.

Example: netPrice=1200+12

String Expression

Expressions in which operations are performed on string are called string expression.

Example: msg= "Hello," + "Mr. Rakesh", Here "+" string operator concatenate two strings "Hello, " and "Mr. Rakesh" results "Hello, Mr. Rakesh" that is assigned to variable msg.

Logical Expression

These expressions evaluate to a Boolean (true or false) value.

Example: 10<19, since 10<19, this expression evaluates to the Boolean value of true.

INTEXT QUESTION

1. Fill in the blanks :
 - (a) An active and dynamic web page can be created by using _____.
 - (b) An _____ is used to transform one or more values into a single resultant value.
 - (c) The _____ tag is used to embed JavaScript in HTML.
 - (d) _____ is an increment operator.
 - (e) The script should be written inside _____ tag.
-

8.4.5 Looping Constructs (Controlling Programming Flow)

The statements inside any program execute sequentially, line by line. This flow of execution is called as sequential execution. This flow of execution can be controlled (for example: Execute a portion of a program only once, based on a condition. Execute a portion of the program repetitively, based on condition.) by using programming constructs. These programming constructs typically are of two types:

- **Conditional**

These constructs provide the facility to execute a portion of a program only once, based on a condition. Examples of conditional constructs are: if, if...else and switch...case.

- **Iterative**

These constructs provide the facility to execute a portion of the program repetitively, based on a condition. Examples of iterative constructs are: while, do...while and for loops.

- **Conditional Constructs (if, if...else & switch...case)**

1. *The if and if...else statement*

If and if..else are the primary decision making constructs of any programming language.

Syntax:

<pre> if(condition) { Statement1 Statement2 _____ _____ } </pre> In this case, if a certain condition evaluates to true, than only the statement(s) written inside the block gets execute otherwise skips the block.	<pre> if(condition) { Statement(s) } else { Statement(s) } </pre> Here, if a certain condition evaluates to true, the statement(s) written inside the block gets execute otherwise, the statement(s) written inside else block gets execute.
---	---

N.B: more than one condition can also be used in if and if..else statement with the help of && (logical and) and || (logical or).

Example 8.3: A sample program to find out the average marks secured by the student in 3 subjects, display the result PASS, only if average marks > 40.	Example 8.4: A sample program to find out the average marks secured by the student in 3 subjects, display the result PASS if average marks > 40 else FAIL.
<pre> <HTML> <HEAD> <TITLE>Example 8.3</TITLE> </HEAD> <BODY> <SCRIPT language="JavaScript"> subject1=45 subject2=70 </pre>	<pre> <HTML> <HEAD> <TITLE>Example 8.4</TITLE> </HEAD> <BODY> <SCRIPT language="JavaScript"> subject1=45 subject2=35 </pre>

<pre> subject3=80 name="Rakesh Kumar" document.write("Name:"+name+"") document.write("
") avgMarks=(subject1+subject2+subject3)/ 3 if(avgMarks>40) { document.write("Result: PASS") } </SCRIPT> </BODY> </HTML> </pre>	<pre> subject3=10 name="Manoj Kumar" document.write("Name:"+name+" ") document.write("
") avgMarks=(subject1+subject2+subject3)/ 3 if(avgMarks>40) { document.write("Result: PASS") } else { document.write ("Result: FAIL") } </SCRIPT> </BODY> </HTML> </pre>
--	---

The output of the Example 8.3 and Example 8.4 are shown in Figure 8.3 and Figure 8.4 below:

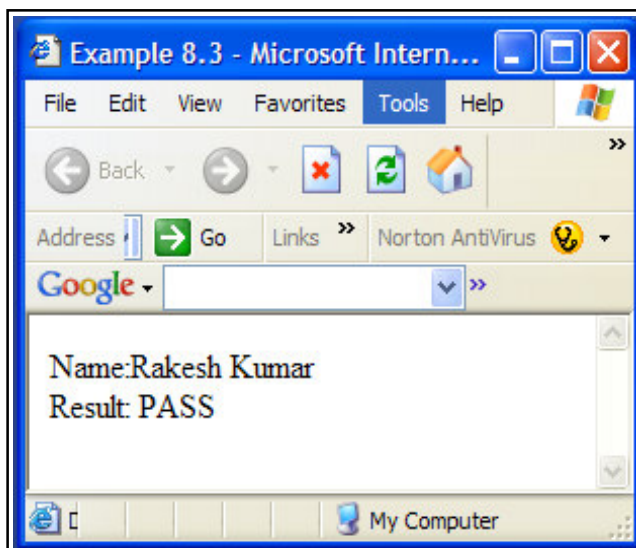


Fig. 8.3



Fig. 8.4

2. The switch Statement

The switch statement compares a value of the variable against other values. Multiple if statements can be replaced with switch.

```
switch(variablename)
{
case value1:
    statement(s)
break
case value2:
    statement(s)
    break
default:
    statement(s)
}
```

value1, value2 may be a number or string, if string it should be written inside double quote. The switch statement on execution checks if the value of variable matches with any case values i.e value1, value2 it executes the statement(s) under it. In case, it can not find a matching case statement, it executes the default statement(s)

An example 8.5 showing use of switch..case statement.

```
<HTML>
  <HEAD>
    <TITLE>Example 8.5, use of switch..case statement</TITLE>
  </HEAD>
  <BODY>
```

This example shows the use of switch..case statement.

```
<table bordercolor=olive border="1">
  <tr><b><td>Sl. No</td><td>Item Name</td><td>Price</td></b></tr>
```

```
<tr><td>1</td><td>Computer</td><td>35000</td></tr>
<tr><td>2</td><td>TV</td><td>15000</td></tr>
<tr><td>3</td><td>Radio</td><td>1500</td></tr>
</table>
<br>

<SCRIPT language="JavaScript">
  choice=1
  switch(choice)
  {
    case 1:
      document.write("You have choose the option 1")
      document.write("<BR>")
      document.write("Item Name: Computer, Price:35000")
      break
    case 2:
      document.write("You have choose the option 2")
      document.write("<BR>")
      document.write("Item Name: TV, Price:15000")
      break
    case 3:
      document.write("You have choose the option 3")
      document.write("<BR>")
      document.write("Item Name: Radio, Price:1500")
      break
    default:
      document.write("You have not choose any option")
  }
</SCRIPT>
</BODY>
</HTML>
```

The output of the Example 8.5 shown in Figure 8.5 below:

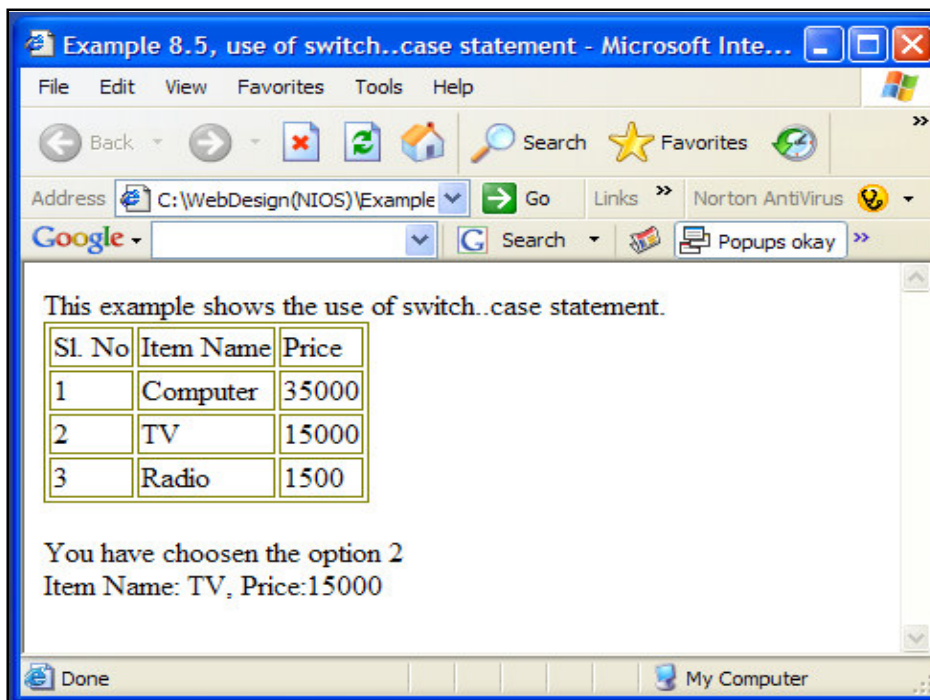


Fig. 8.5

➤ Iterative Constructs (while, do...while and for loops)

1. The while statement

The while construct is used to execute statement(s) as long as certain condition is true.

Syntax:

```
while(condition(s))  
{  
    statement(s)  
}
```

2. The do...while statement

This statement is very similar to the while statement, except that it first execute the statement then checking the condition whereas in while first condition checking then statement execution. So in case of do... while the statement(s) execute at least once even if the condition is false.

Syntax:

```
do
{
Statement(s)
}while(condition(s))
```

An example 8.6 showing use of while and do..while.

```
<HTML>
  <HEAD>
    <TITLE>Example 8.6, use of while and do..while statement</TITLE>
  </HEAD>
  <BODY>
    This example shows the use of while and do..while statement.
    <SCRIPT language="JavaScript">
      count=1
      while(count<=3)
      {
        document.write("<BR>"+ "You are inside while loop"+"<BR>")
        document.write("The value of count is:" + count)
        count++
      }
    </SCRIPT>
  </BODY>
</HTML>
```

```
    }  
    document.write("<BR>")  
    document.write("You are now outside while loop")  
    num=1  
    document.write("<BR>")  
    do  
    {  
        document.write("You are inside do...while! The statements inside  
do..while execute at least once even if the condition is false")  
        document.write("<BR>")  
        document.write("The value of num is:"+num)  
        num++  
    }while(num>3)  
    document.write("<BR>")  
    document.write("You are now outside do...while loop")  
    </SCRIPT>  
    </BODY>  
</HTML>
```

The output of the Example 8.6 shown in Figure 8.6 below:

Fig. 8.6

3. *The for statement*

The for statement is also an iterative construct, used to execute statement(s) based on some condition.

Syntax:

```
for(variable initialization;checking condition;change value of vriable)
{
    Statement(s)
}
```

The for statement first initialize the variable with some value then, checks the condition. If the condition becomes true, it changes the value of the variable and the statement(s) within the braces are executed. One thing always remembers while changing the value of variable, the changes to the variable in such a way that at one point of time on checking the condition it should get false otherwise it would enter into infinite loop and the program will hang.

An example 8.7 showing use of for loop – display 1 to 5 numbers in different line.

```
<HTML>
  <HEAD>
    <TITLE>Example 8.7, use of for statement</TITLE>
  </HEAD>
  <BODY>
    This example shows the use of for statement.
    <br>
    <SCRIPT language="JavaScript">
      {
        for(i=1;i<=5;i++)
        {
          document.write("<BR>"+ "The Value of i is:"+i)
          document.write("<BR>")
        }
      }
    </SCRIPT>
  </BODY>
</HTML>
```

The output of the Example 8.7 shown in Figure 8.7 below:

Fig. 8.7

8.5 FUNCTIONS

A function is a block of code that has a name. Whenever the name is used the function is called which means that the code within the function gets executed. If a same set of statements to execute number of times in different parts of the program it is better to create a function, write the statements inside it and call the function by name anywhere in program. By this way you can make your program efficient and simple.

The second purpose of JavaScript functions is to link actions on a web page such as mouse click, button presses, text selection, and other user actions can call JavaScript functions by including suitable tags inside HTML document.

Function blocks begin with the keyword function, followed by the function name and parentheses (). The statements inside function block are written inside braces {}. The function may take some values, known as parameters that are specified inside

parentheses () separated by comma one another and may also return some value.

Syntax:

```
function functionName(p1,p2...pn)
{
    block of code goes here
}
```

The keyword **function**, should be in lower case. functionName represents name of the function, p1,p2....pn are the parameters (optional), block of code goes inside braces { }. Usually functions are written in the Head part of the HTML page, so that they will be loaded first, when the page is loaded into browser.

A function can be called inside the program, called by another function, or it can be called by a user action called event such as mouse click, button presses etc.

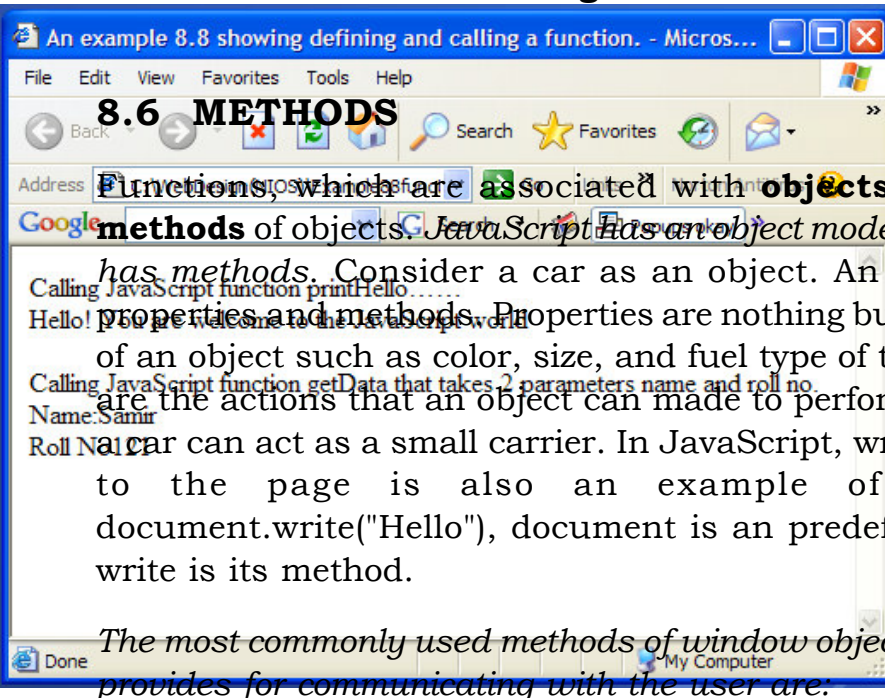
An example 8.8 showing defining and calling a function

```
<HTML>
  <HEAD>
    <TITLE> An example 8.8 showing defining and calling a function. </TITLE>
    <SCRIPT language="JavaScript">
      function printHello()
      {
        document.write("Hello! You are welcome to the JavaScript world")
      }
      function getData(name,rollNo)
      {
```

```
        document.write("Name:"+name)
        document.write("<BR>")
        document.write("Roll No"+rollNo)
    }
</SCRIPT>
</HEAD>
<BODY>
    Calling JavaScript function printHello.....
    <BR>
    <SCRIPT language="JavaScript">
        printHello()
    </SCRIPT>
    <BR>
    <BR>
    Calling JavaScript function getData that takes 2 parameters name and
roll no.
    <BR>
    <SCRIPT language="JavaScript">
        getData("Samir",121)
    </SCRIPT>
</BODY>
</HTML>
```

The output of the Example 8.8 shown in Figure 8.8 below:

Fig. 8.8



- The **alert ()** method

Used to create a dialog box with a message and OK button. Usage:
`alert("Hello World")`

➤ The **confirm ()** method

To get the confirmation from the user, `confirm ( )` is used, it is similar to the `alert` method, and in *addition to an OK button it also provides a Cancel button*. The method returns `true` if the user clicks OK and `false` if the user clicks Cancel.

```
val=confirm("Message to be displayed")
```

Usage: `var ans=confirm("Continue ?")`

➤ The **prompt ()** method

The `prompt ( )` method create a dialog box with a message and requests user input through a text field. Whatever user types into the text box is returned as the result of the `prompt ( )`.

Syntax:

```
Prompt("Message to the user","Default value on to the text field")
```

Usage: `var name=prompt("Please enter your name","Type your name")`

An example 8.9 showing use of some commonly used methods

```
<HTML>
  <HEAD>
    <TITLE>
      An example 8.9 showing use of some commonly used methods.
    </TITLE>
    <SCRIPT language="JavaScript">
      function printName()
      {
        var name=prompt("Please Enter Your Name:", "Type your name in
the text box")
        document.write("Hi!" + name)
```

```
    alert("Hello! " + name + ", You are welcome to the JavaScript world.")
  }
</SCRIPT>
</HEAD>
<BODY>
```

Calling JavaScript function printName.....that prompts user to input name using prompt () method, accept it in a variable and gets him with some message name in a dialog box using alert () method.

```
<BR>
<SCRIPT language="JavaScript">
    printName()
</SCRIPT>
</BODY>
</HTML>
```

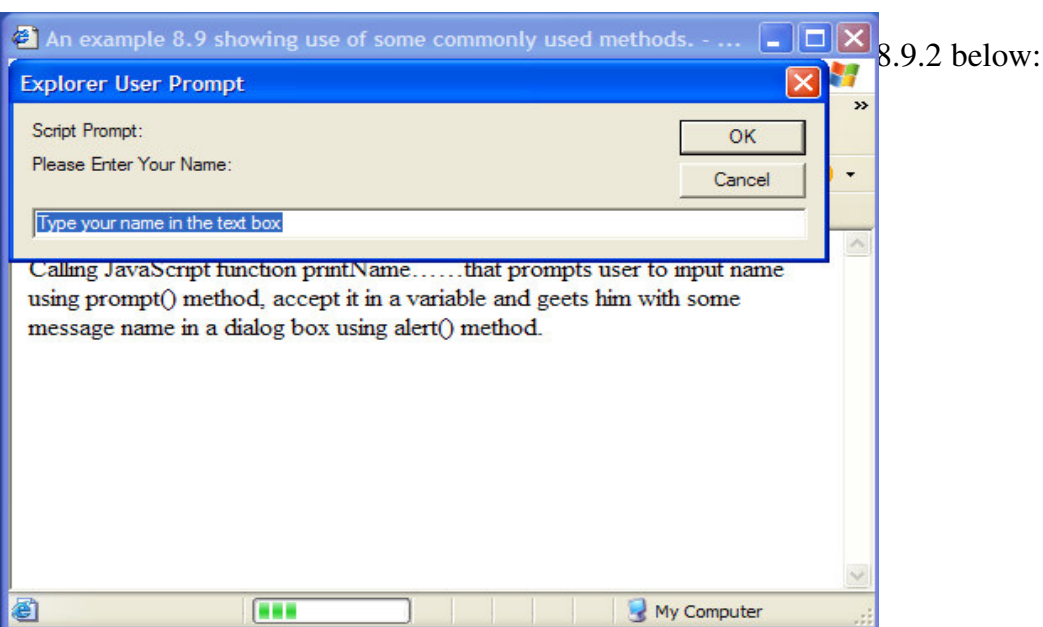


Fig. 8.9

The Figure 8.9.2 shows output after input Suresh in the text box

Fig. 8.10

8.7 EVENT HANDLING

➤ Events and Event Handlers

An event is **an action** that occurs when a user interacts with a web page or other browser related activities. For Example: *when a user clicks a mouse button or enters data in a form, an event is generated. The browser waits for the event to occur, and takes an appropriate action according to the type of event. The action taken by the browser to an event is known as **event handling**. The function that is executed in response to the event is called an **event handler**.*

The following figure shows an event and the process of event handling:

Fig. 8.11 : Events and Event Handlers

Event Handling in JavaScript takes place in two steps:

1. Defining events such that they are handled by the script.
2. Connecting these events to JavaScript code.

JavaScript has predefined events for links, images, form elements, windows (a window refers to the body of a document containing HTML content) and event handlers.

The following table structure shows few events, description and the event handlers associated with HTML elements:

USER BROWSER EVENT HANDLERS				
HTML Element	HTML Tags	Event	Description	Event Handler
document body	<BODY> </BODY>	load	Generated when page is loaded into the browser.	onLoad
		unLoad	Generated when document is closed	onUnLoad
Link	<A> - 	click	Mouse click on link	onClick
		mouseover	Generated when the mouse moved over a	onMouseOver

			link	
		mouseout	Generated when mouse is moved away from link	onMouseOut
form	<form> </form>	submit	Generated when user submit the form	onSubmit
Text field	<INPUT TYPE = "text">	blur	Text field loses focus	onBlur
		Focus	Text field receives current input focus	onFocus
		Change	Generated when user changes the value	onChange
		select	Text is selected within the text field	onSelect
Text area	<TEXTAREA> </TEXTAREA>	blur	A text area loses current input focus	onBlur
		focus	Test area gets the current input focus	onFocus
		change	Text area value changes	onChange
button	<INPUT TYPE = "button">	click	The button is clicked	onClick
submit	<INPUT TYPE = "submit">	click	The submit button is clicked	onClick
Reset	<INPUT TYPE = "reset">	click	The reset button is clicked	onClick
radio button	<INPUT TYPE = "radio">	click	The radio button is clicked	onClick

check box	<INPUT TYPE = "checkbox">	click	The check box button is clicked	onClick
Dropdown selection	<SELECT> </SELECT>	focus	A selection element receives input focus	onFocus
		change	Selection element value changed	onChange

An example 8.10 showing the use of Events and Event Handlers associated with HTML elements:

```

<html>
<head>
<title>Event Handling in
JavaScript</title>
<script language="JavaScript">
function load()
{
alert("onLoad event was just
handled")
}
function displayAlert()
{
alert("You are about to visit NIOS
site")
}
</script>
</head>
<body onLoad="load()">
<CENTER>

```

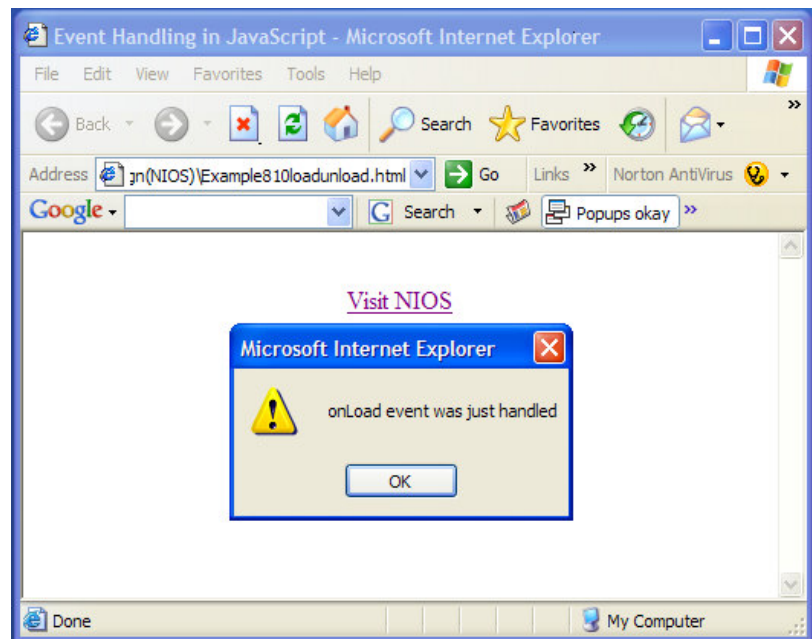


Fig. 8.12 (onLoad event handling)

```
<BR>
```

```
<A HREF="http://www.nios.ac.in"
onClick = "displayAlert()"> Visit
NIOS </A>
```

```
</CENTER>
```

```
</body>
```

```
</html>
```

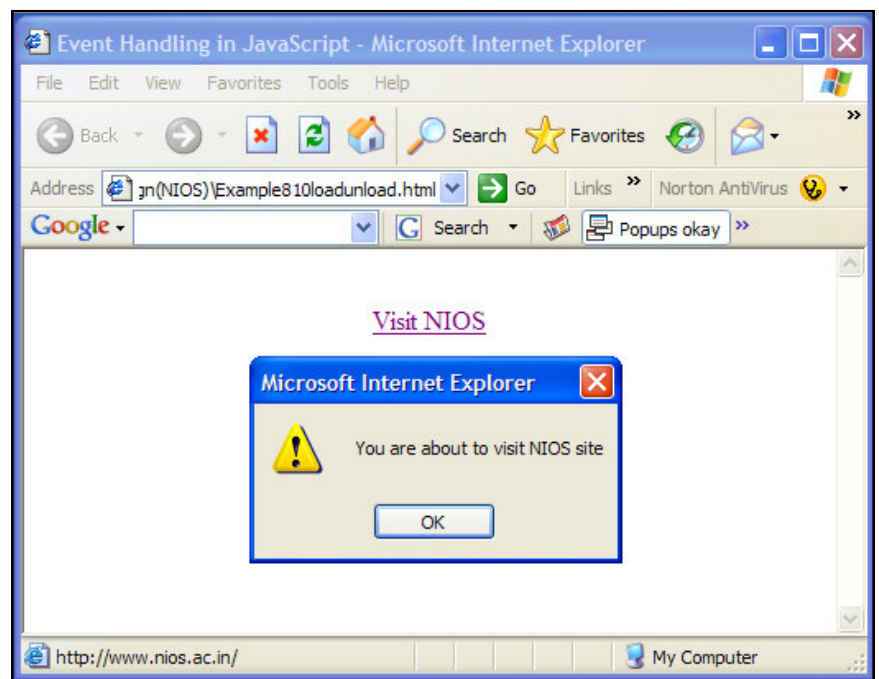


Fig. 8.13 (onClick event handling)

8.8 WINDOW OBJECT

The window object is a top level object in the JavaScript object model. It is also default object i.e. the statement `document.write("Hello! Welcome to JavaScript World")` is actually expanded as `window.document.write("Hello! Welcome to JavaScript World")` by the JavaScript interpreter.

Properties associated with the window object:

Property	Description
document	Refers to a document being displayed in a window
location	Refers to a URL of a window
status	Refers to message appearing on the status bar
name	Refers to the name of window

Methods of the window object:

Method	Description
alert(text)	Pop up a window with text as message.
confirm(text)	Pop up a message box with text displayed, along with buttons for OK and CANCEL.
prompt(text,defaultInput)	Display a dialog box with a text displayed along with text box to input user data and default value in text box.
open(URL,name,featureList)	Opens a new window, populated by URL, with the target name(optional) of the window, and whichever features (optional) are identified in the feature list.
close()	Closes the current window

Event and Event Handlers of the window object

Event	Event Handlers	Description
load	onLoad	Processes when the window finishes loading.
unload	onUnLoad	Processes when the window finishes unloading.

8.8.1 Form Validation with JavaScript

Form validation is the process of checking that a form has been filled in correctly before it is processed. This section covers how to create a JavaScript-enabled form that checks whether a user has filled in the form correctly before it is sent to the server.

First of all we should know why form validation is a useful thing, and then build up a simple example form. For example, if your form has a box for the user to type their email address, you might want your form handler to check that they've filled in their address before you deal with the rest of the form.

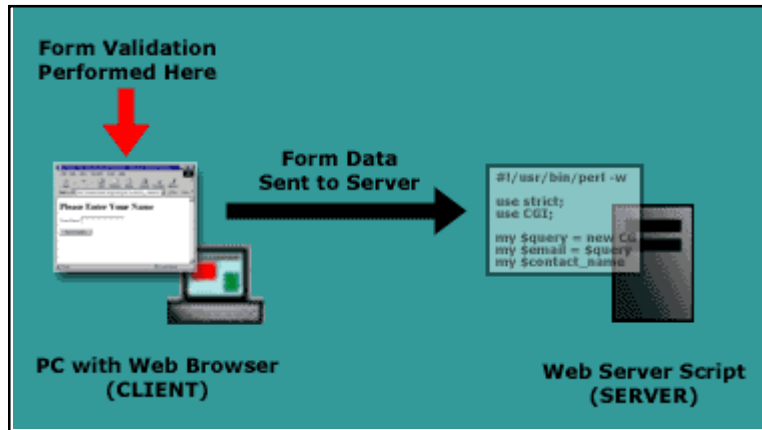


Fig. 8. 14 : Client-side form validation

Let us build a simple form with a validation script. The form will include one text field called **Your Name**, and a **submit** button. Our validation script will ensure that the user enters their name before the form is sent to the server.

An example 8.11 showing form validation with JavaScript

```
<HTML>

<HEAD>

<TITLE>JavaScript Form Validation</TITLE>

<SCRIPT language="JavaScript">
function validate_form ( )
{
    valid = true;
    if ( document.contact_form.contact_name.value == "" )
    {
        alert ( "Please fill in the 'Your Name' box." );
        valid = false;
    }
    return valid;
}
</SCRIPT>

</HEAD>

<BODY>

<form name="contact_form" method="post"
action="http://www.nios.ac.in/contact_simple.asp" onSubmit="return
validate_form ( );">

<h1>Please Enter Your Name</h1>

<p>Your Name: <input type="text" name="contact_name"></p>

<p><input type="submit" name="send" value="Send Details"></p>

</form>

</BODY>

</HTML>
```

You can see that the page consists of a JavaScript function called **validate_form ()** that performs the form validation, followed by the form itself. Let us look at the form first.

First part of the form is the form tag:

```
<form name="contact_form" method="post" action="http://  
www.nios.ac.in/contact.asp" onSubmit="return validate_form (  
);">
```

The form is given a name of "contact_form". This is so that we can refer the form by name from our JavaScript validation function.

The form uses the post method to send the data to a sever side script on www.nios.ac.in server(assumption). In reality, you would of course send the data to your own server side script JSP, ASP page, etc.

Finally, the form tag includes an onSubmit attribute to call our JavaScript validation function, validate_form (), when the Send Details button is pressed. The return allows us to return the value true or false from our function to the browser, where true means "carry on and send the form to the server", and false means "don't send the form". This means that we can prevent the form from being sent if the user hasn't filled it in properly.

The rest of the form prompts the user to enter their name into a form field called contact name, and adds a Send Details submit button:

```
<h1>Please Enter Your Name</h1>  
<p>Your Name: <input type="text" name="contact_name"></p>  
<p><input type="submit" name="send" value="Send  
Details"></p>  
</form>
```

Now let us take a look at the JavaScript form validation function that does the actual work of checking our form.

➤ The **validate_form ()** function

The form validation function, **validate_form ()**, is embedded in the **head** tag near the top of the page:

```
<SCRIPT language="JavaScript">
```

```
function validate_form ( )
```

```
{  
    valid = true;
```

We use this **valid** variable to keep track of whether our form has been filled out correctly. If one of our checks fails, we'll set **valid** to **false** so that the form won't be sent.

The next 5 lines check the value of our **contact_name** field to make sure it has been filled in:

```
    if ( document.contact_form.contact_name.value == "" )  
    {  
        alert ( "Please fill in the 'Your Name' box." );  
        valid = false;  
    }
```

If the field is empty, the user is warned with an **alert** box, and the variable **valid** is set to **false**.

Next, we return the value of our **valid** variable to the **onSubmit** attribute (described above). If the value is **true** then the form will be sent to the server; if it's **false** then the form will not be sent:

```
return valid;
```

Finally, we finish our **validate_form ()** function with a closing brace, and end our HTML comment and **script** tag:

```
}  
  
</SCRIPT>
```

8.9 VBSCRIPT

VBScript, a subset of Visual Basic Language is a scripting language. It is much easier to learn than programming language C, C++, Java, and other scripting language as JavaScript.

An important aspect of this programming model is that one can use Microsoft's ActiveX controls (graphs, charts, timer, banner etc) and intrinsic HTML controls that give web pages an attractive look and feel.

VBScript can play an important role in many ways: validating data, providing interactive response, and initiating data storage.

VBScript embedded inside HTML document might not run properly on the various platforms and operating systems, it is supported by Internet Explore only.

8.9.1 Comparison with JavaScript

JavaScript and VBScript have many similarities as well as several differences that are described below:

➤ **Embedded HTML Languages**

Like JavaScript, VBScript is a scripting language embedded in HTML document. VBScript also uses the **<SCRIPT> tag** in the same as JavaScript, using VBScript as the LANGUAGE parameter.

A Sample code th

at shows use of SCRIPT tag in VBScript.

```
<HTML>

<HEAD>
<TITLE>VBScript sample Example</TITLE>
<SCRIPT language="VBScript">
    Sub displayalert()
        MsgBox("Hello! Testing VBScript")
    End Sub
</SCRIPT>
</TITLE>
</HEAD>

<BODY onLoad="VBScript:call displayalert">
VBScript Tested
</BODY >
</HTML>
```

The above calls VBScript function displayalert on page load and displays message using Msg Box procedure.

Here, in above example it is clear that the declaration of function(JavaScript) called as procedure in VBScript. In VBScript, there are two types of procedure

- Sub Procedure
- Function Procedure

A **sub procedure** is a series of statements, enclosed by Sub and End Sub statements, which perform actions but does not return value. A sub procedure can take parameters or arguments. The sub procedure called by the statement: call subprocedurename. VBScript also have some built in object such as: MsgBox to

display messages and InputBox to accept some information.

A **function procedure** is a series of statements enclosed by Function and End Function statements. A function procedure is similar to a sub procedure, but has an added functionality for returning a value. A function procedure can also take parameters. A function returns a value by assigning a value to its name.

➤ **Identical Object Model**

Both JavaScript and VBScript use identical object models. Both JavaScript and VBScript interact with HTML in an identical manner. Like JavaScript responds to events triggered by objects, VBScript also responds similarly to events

➤ **Industry Support**

JavaScript has wider acceptance and industrial support than VBScript, due to its platform independent and run on any Operating environment nature. JavaScript is supported by all most all browsers. VBScript runs only under Internet Explorer.

INTEXT QUESTION

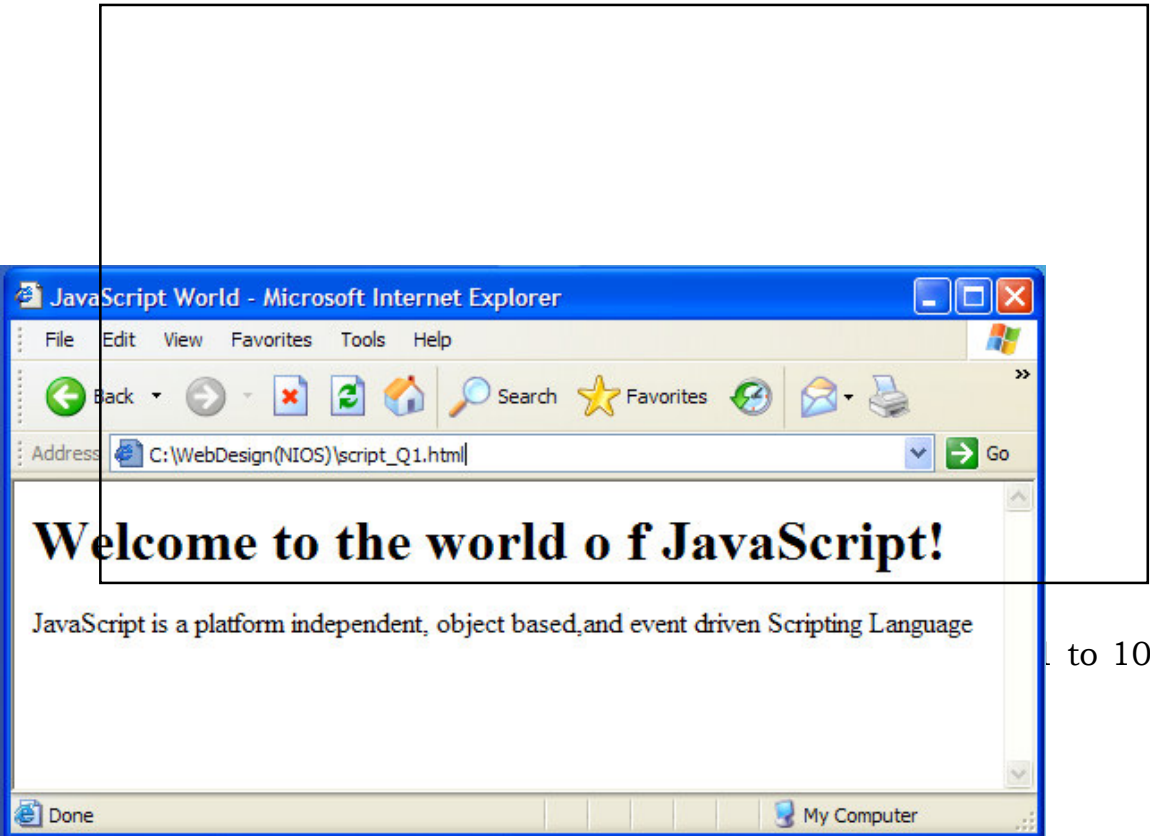
2. Write True or False for the following
- (a) The window object is a top level object in the JavaScript object model.
 - (b) A sub procedure is a series of statement.
 - (c) The function that is executed in response to the event is called an event responder.
 - (d) Load event occurs when web page load into browser.
 - (e) Open method of window object opens a new window.
 - (f) VBScript runs only under Internet Explorer.
-

8.10 WHAT YOU HAVE LEARNT

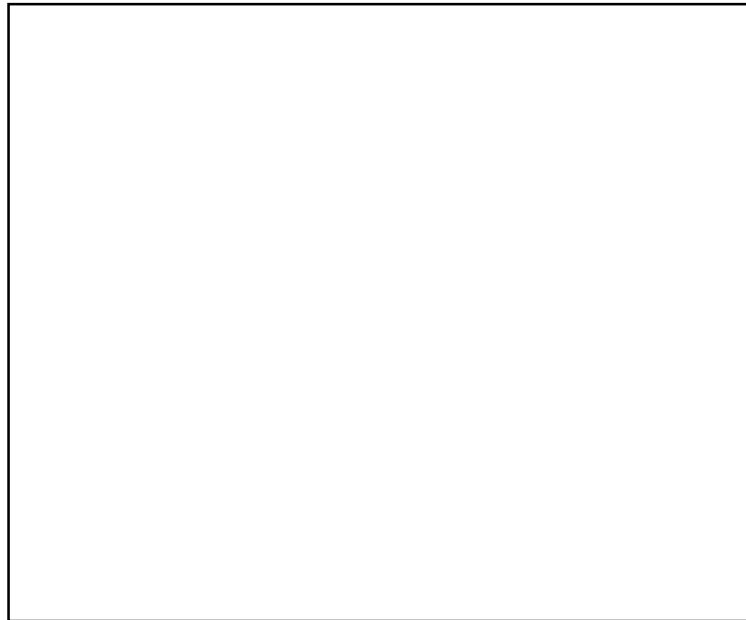
In this lesson you learnt about characteristics of Javascript, variables in Java script, and use of operators. We discussed looping concepts and Functions as well as how to handle event along with window object. The comparison between VBscript and Java script is also discussed.

8.11 TERMINAL QUESTIONS

1. What is client side and server side script?
2. Write a script that creates a document as shown in figure:



to 10



4. Create a document which on loading, automatically displays an alert dialog box informing the user that “the user is about to enter the site”.
5. Create a document and add a link to it. When the user moves the mouse over the link it should load the linked document on its own. (User is not required to click the link)
6. Create a document with a form having at least two text fields such that if the user leaves these fields blank they should be prompted to enter data in these fields when they click on the submit button.
7. Compare JavaScript with VBScript

8.12 FEEDBACK TO INTEXT QUESTIONS

1. (a) scripting language (b) Operator
(c) <SCRIPT> (d) ++ (e) <HEAD>
 2. (a) True (b) True (c) False
(d) True (e) True (f) True
-

Advanced Topics in Web Designing

9.1 INTRODUCTION

A first impression does make a lasting impression. Good use of color contrasts, rich in content and graphics, animation, cartooning, audio, video, and interactive websites always creates a good impression at the first sight in the visitor's mind that lasts for ever.

All the above stuffs can be achieved by using special tools like image creation and editing using Adobe Photoshop, creation of animation and movies using Macromedia Flash tool.

9.2 OBJECTIVES

After going through this lesson, you would be able to:

- use of FrontPage Active Elements
 - explain the concept of Multimedia in a webpage
 - create and Edit images using Adobe Photoshop
 - explain Animations and Movies using Macromedia Flash
-

9.3 DHTML

DHTML (Dynamic Hyper Text Mark-Up Language) is a new web page creation software tools that allows on the fly modification on the web page. It provides the ability to create pages that can changes their structure, content, or appearance to user input, without requesting any data from the server. **All the following DHTML components discussed below are in reference with FrontPage 2000.**

9.3.1 Using Hover Button

Hover Button is a feature of FrontPage 2000 that allows you to create animated buttons that change form or color when the mouse pointer is moved over them. Hover Buttons can give life to your web pages. They seem to “come alive” and are great for producing a navigation bar for your site.

To add a hover button:

1. Click **Insert** → **Component** → **Hover Button**

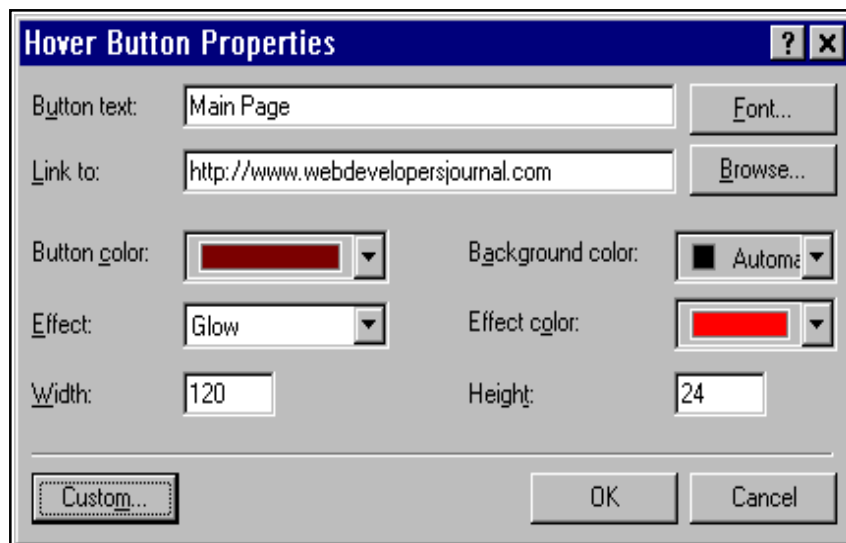


Fig. 9.1

2. Type some text that will appear on your button.
 3. Type or paste in a URL to link to, or browse your Web for another page to link to.
-

4. Choose the button color, effect, background color and effect color.
5. Specify dimensions if desired.
6. Click OK.

In the example buttons above, the **Glow** effect was used. The Maroon buttons glow with a red color when the mouse is moved over them.

9.3.2 Using Banner Ad Manager

Banner Ad Manager uses a list of images and displays each for a preset number of seconds and switches to the next, until it is finished with the list. It then starts again from the beginning. You can also take the user to a different URL when clicked over the Ad Banner.

To add a Banner Ad Manager:

1. Click **Insert** → **Component** → **Banner Ad Manager**

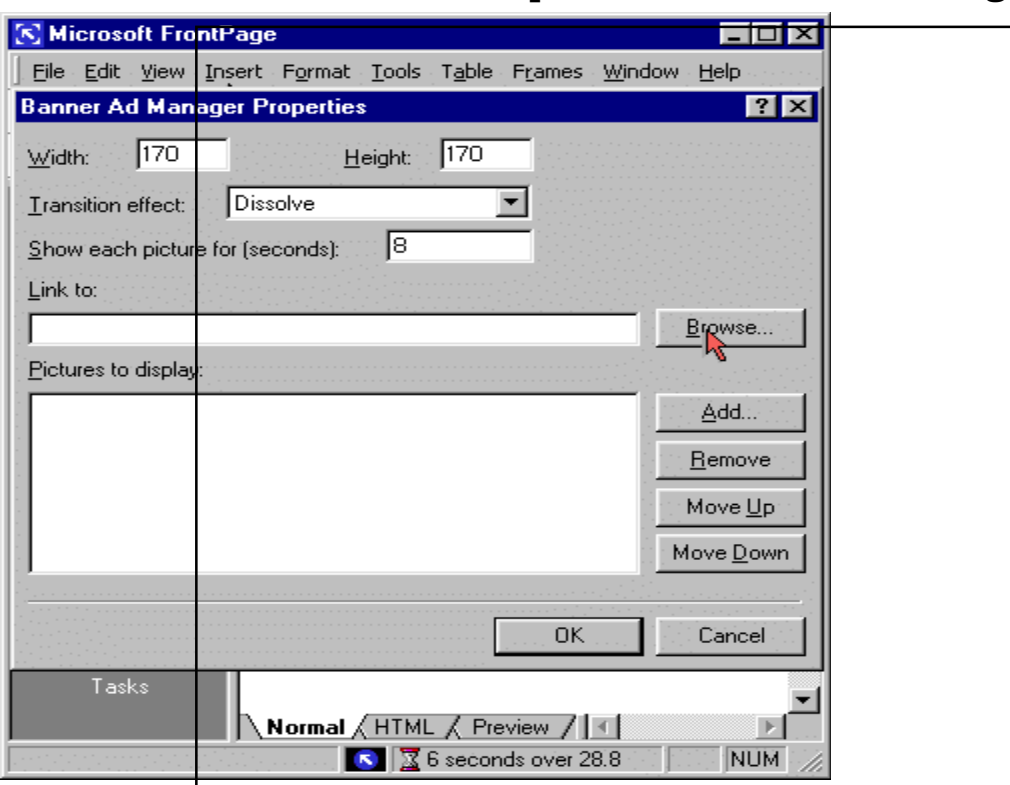


Fig 9.2

2. Mention the **Width and Height as 170**. Increase the show picture duration to **8 Seconds**. Later click **Browse... button** to link a page.
3. Select the URL of the page to make a Link.
4. Add Pictures to display. Select **Add...** to include images to the Banner. Include as many images as in the same way. Click the **OK** button.



Fig. 9.3

To view the output, Select **Preview in Browser** option in **File** menu.

9.3.3 Using Hit Counter

Hit counters are commonly used on Web pages to track the number of times the page has been accessed. You must have seen a hit counter like the one given below in some of the web pages.

This defines the number of times the same web page is accessed by the users or in other words number of visitors visited this particular site.

To add a Hit Counter:

1. Click **Insert** → **Component** → **Hit Counter**

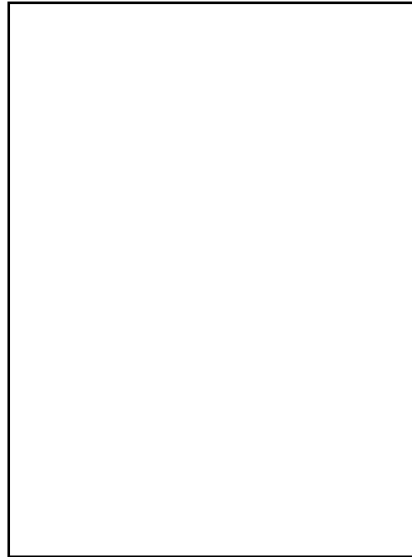
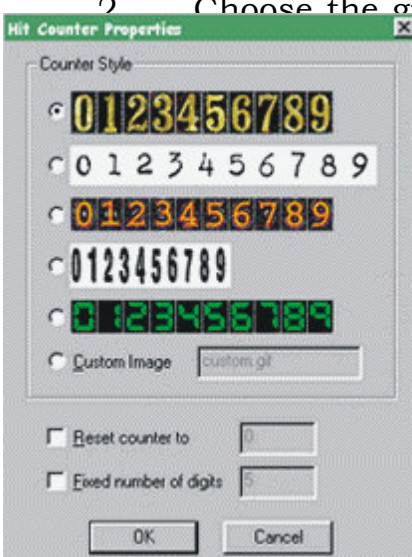


Fig : 9.4

2. Choose the graphic style you prefer.



You can give the counter an initial value. The

appear as text until you save the page out to the
with your browser.

queue

is an animated message on your page when it
Internet Explorer. This particular implementation of
only works in Internet Explorer browsers,
JavaScript code to place in your page that

will do the same thing and appear on all 3.0 and later version of
Internet Explorer web browsers.

THIS DOES NOT WORK IN NETSCAPE BROWSERS.

To add a Marquee:

1. Click **Insert → Component → Marquee**
2. Type in some text
3. Choose your settings — direction, effect, speed, etc.
4. Click OK.

9.4 MULTIMEDIA

As the term indicates, multimedia is a **combination of many different media**: text, graphics, sound, animation and video clip.

9.4.1 Using Sound

The capability to play a sound as a visitor interacts with the web pages greatly enhances the attractiveness and effectiveness of a page. But the problem with sound is that even a few seconds worth of audio takes a good amount of time to download, a minute or two of it, depending on the file format and quality. So as a rule of thumb, one should keep audio clips short, enough to make file sizes 20k or lesser.

The most commonly used audio file formats are:

MIDI (Musical Instrument Digital Interface), MP3 (MPEG Layer 3 Audio file), AU, WAV (windows WAVE sound) etc.

➤ **Embedding sound into a HTML document**

Embedded Sound in a HTML file that plays automatically when the page loads.

The format for an Embed:

```
<EMBED SRC=" filename.extension" AUTOSTART="TRUE" LOOP="2"
HEIGHT="145" WIDTH="100" ></EMBED>
```

EMBED tells the browser an embed sound is here — go get the plug-in (small program that helps to run sound files). Remember, embed commands are associated with plug-ins.

Note: *If no plug-in is available, the browser will do one of three things:*

1. Do nothing. This is true of very early level browsers or browsers other than Netscape.
-

2. Put up a dialogue box asking you how you want to handle the file.
3. Tell you a plug-in is needed and ask you if you'd like to go get it.

Important attributes of EMBED tag:

- **SRC**="filename.extension" is pretty straight-forward. That is the name of your music file and the proper extension for your particular file. If it is a MIDI file named Sunset then you will code SRC="Sunset.mid".
- **AUTOSTART** to TRUE to play the sound by itself on page load.
- **LOOP** to specify the repetition of sound in number of times.
- **HEIGHT/WIDTH** deals with the plug-ins control panel size on the page. If you don't want the plug-in to display in page make the Height and Width to 0.

Width, height, and auto start are all required parameters for the control that will be displayed when the page loads. This code should be coded immediately after the *body* tag if it is to be played automatically upon page load.

An example showing embedding audio file sing.au inside HTML document

```
<html>
  <head>
    <title> Embedded Audio file in HTML document<title>
  </head>

  <body>
    Audio File has been embedded inside this document, which will
    run automatically on loading the page.
    <EMBED SRC="sing.au" AUTOSTART="TRUE" LOOP="2"
    HEIGHT="145" WIDTH="100" >
    </EMBED>
  </body>
</html>
```

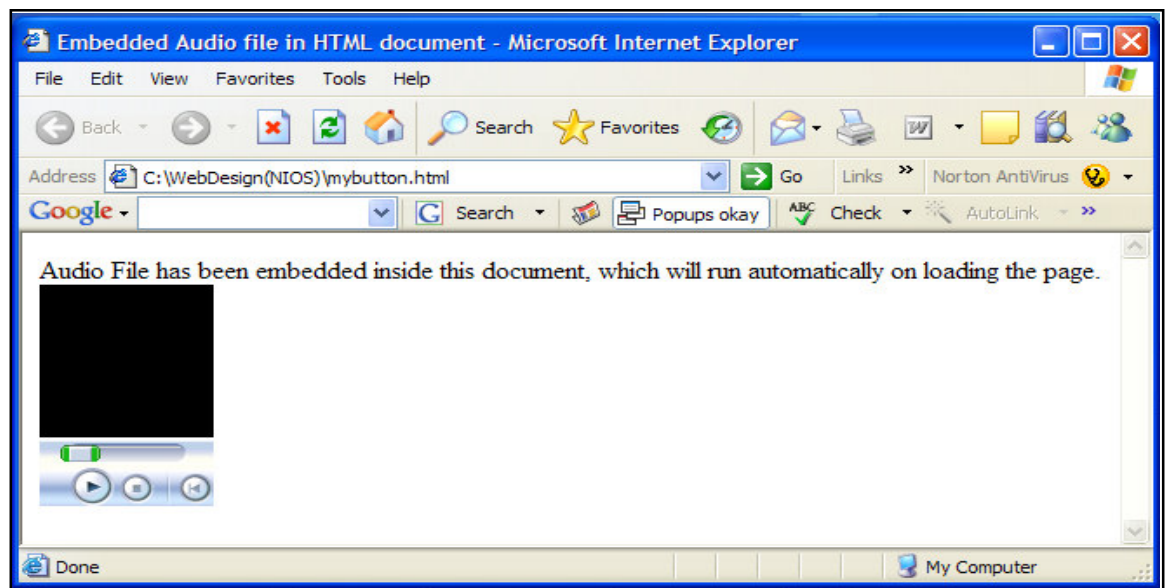


Fig. 9.5

9.4.2 Using Video

Embedding a video follows the same basic format as embedding a sound. Even the same attribute commands, like AUTOSTART and LOOP, all work in a similar fashion.

The most commonly used audio file formats are:

AVI (Audio Video Interleave file), MPEG (Moving Picture Experts Group video file), SWF(Macromedia Flash Movie), WMV(Windows Media Video)

```
<EMBED SRC="mymovie.swf" WIDTH="200" HEIGHT="100"
```

```
AUTOPLAY="TRUE"></EMBED>
```

Important attributes of EMBED tag

- **SRC:** This is a required attribute and takes the video movie URL as its value.
 - **WIDTH and HEIGHT:** Required attributes. They specify the dimensions in pixel values.
 - **AUTOPLAY:** Its value can be either TRUE, movie plays when page loads, or FALSE, which waits for the user to click
-

the play button.

- **LOOP:** Setting this to TRUE will play the movie continuously. A FALSE value will play the movie only once.

9.4.3 Animated GIF

An animated gif is the collection of a number of images (frames) which when played in sequential order makes a movie like effect. GIF animation doesn't give the same level of control and flexibility as other animation formats but it has become extremely popular because it is supported by nearly all Web browsers. In addition, animated GIF files tend to be quite a bit smaller than other animation files

Let us start off with a check list of all the things you need to create animated gifs.

- An imaging software such as Paint Shop Pro(PSP) or Colorworks.
- A gif assembling software such as Gif Animator, Animation Shop, Giffy
- Your own Misualisation and creativity and
- A lot of patience

A number of software program's are available either for free or shareware on the Internet.

9.5 IMAGE PROCESSING USING PHOTOSHOP

The state-of-the art tool Photoshop is basically used to edit images with its comprehensive set of retouching, painting, and drawing tools. It's not only limited to editing images but also very much useful for creating flashy logos, buttons, expressive artistic text, designing impressive web page and wide variety of other graphic images.

9.5.1 Getting started with Photoshop

To open Photoshop: click **Start** √ **All Programs** √ **Adobe Photoshop 7.0**

This will open the work area of Photoshop where you can create and edit images.

Fig. 9.6 : Photoshop work area

The work area consists of the following components:

- **Menu bar**

The menu bar contains menus for performing tasks. The menus are organized by topic. For example, the Layers menu contains commands for working with layers.

- **Options bar**

The options bar provides options for using a tool.

- **Toolbox**

The toolbox holds tools for creating and editing images.

- **Palette well**

The palette well helps you organize the palettes in your work area.

- **Palettes**

Palettes help you monitor and modify images.

- ❖ **Using the tool options bar**

Most tools have options that are displayed in the tool options bar. The options bar is context sensitive and changes as different tools are selected.

You can move the options bar anywhere in the work area, and dock it at the top or bottom of the screen.

To display the tool options bar:

Do one of the following:

- Choose Window > Options.
- Click a tool in the toolbox.



Lasso options bar

- ❖ **Using the toolbox**

The first time you start the application, the toolbox appears on the left side of the screen. Some tools in the toolbox have options that appear in the context-sensitive tool options bar. These include the tools that let you use type, select, paint, draw, sample, edit, move, annotate, and view images. Other tools in the toolbox allow you to change foreground/background colors. The different tools and their description:

The marquee tools Make rectangular, elliptical, single row, and single column selections.	The move tool Moves selections, layers, and guides.	The lasso tools Make freehand, polygonal	The magic wand tool Selects similarly colored
The crop tool trims images.	The slice tool creates slices.	The slice selection tool selects slices.	The healing brush tool paints with a sample or pattern to repairs imperfections
The patch tool Repairs imperfections in a selected area of an image using a sample or pattern.	The brush tool paints brush strokes.	The pencil tool paints hard-edged strokes.	The clone stamp tool Paints with a sample of an image.

The pattern stamp tool paints with part of an image as a pattern.	The history brush tool paints a copy of the selected state or snapshot into the current image window.	The art history brush tool paints with stylized strokes that simulate the look of different paint styles, using a selected state or snapshot.	The magic eraser tool erases solid-colored areas to transparency with a single click.
 The pattern stamp tool paints with part of an image as a pattern.	The background eraser tool erases areas to transparency	The gradient tools Create straight-line, radial , angle, reflected , and diamond , blends between colors.	The paint bucket tool fills similarly colored areas with the foreground color.
The blur tool blurs hard edges in an image.	The sharpen tool sharpens soft edges in an image.	The smudge tool smudges data in an image.	The dodge tool lightens areas in an image.

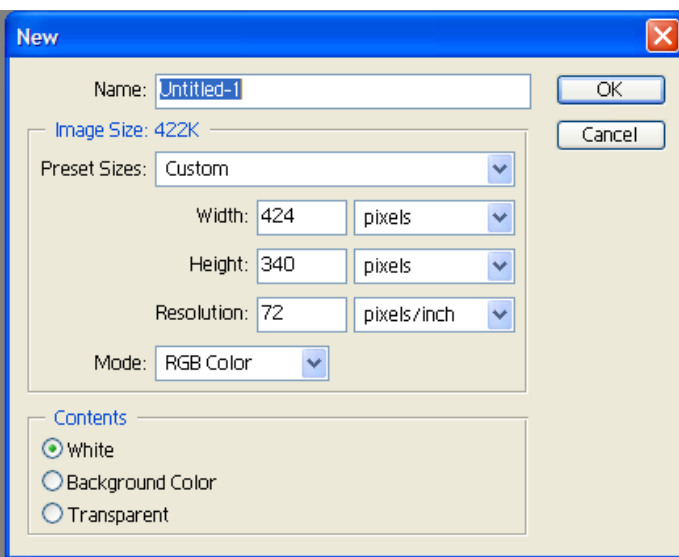
<u>The burn tool</u> darkens areas in an image.	<u>The sponge tool</u> changes the color saturation of an area.	<u>The path selection tools</u> make shape or segment selections showing anchor points, direction lines, and direction points.	<u>The type tools</u> create type on an image.
<u>The type mask tools</u> create a selection in the shape of type.	<u>The pen tools</u> let you draw smooth-edged paths.	<u>The custom shape tool</u> makes customized shapes selected from a custom shape list.	<u>The annotation tools</u> makes notes and audio annotations that can be attached to an image.
<u>The eyedropper tool</u> samples colors in an image.	<u>The measure tool</u> measures distances, locations, and angles.	<u>The hand tool</u> moves an image within its window.	<u>The zoom tool</u> magnifies and reduces the view of an image.

To select a tool: Click its icon or press its keyboard shortcut. If the icon has a small triangle at its lower right corner, hold down the mouse button to view the hidden tools. Then, click the tool you want to select.

9.5.2 Quick tour to Adobe Photoshop

Opening a new file

Click **File** → **New**, it will open a window where you have to specify Name, Width, and Height etc of the working area, shown in the following figure



On clicking OK, a window, the working area with name untitled-1 will be opened i.e. Shown in following figure:

Fig. 9.8

Using Adobe Photoshop's Layers window

The Layers window shows the various layers that your image is made up of.

To make a new layer, click the New Layer button, as shown by the red arrow.

To work on a different layer, click on that layer. The eyeball will appear next to that layer.

You can drag layers up and down the list.

Remember – Create a new layer for each part of your image. This allows you to go back and edit the layers individually.

Selection

One of the most important concepts in Adobe Photoshop is Selection.

This is the Rectangular Selection Tool.

Use this tool on your image to select an area of the image. This lets Photoshop know that that's the area you want to work on.

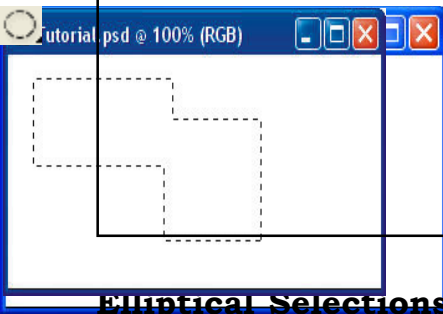
Lasso Tool – Allows you to draw a selection area with the cursor.

Adding to a Selection and making a square

To add to a selection, hold Shift before dragging.

To make the selection exactly square, start dragging, then hold Shift.

You can press Ctrl+D to “deselect” and remove the selection at any time.

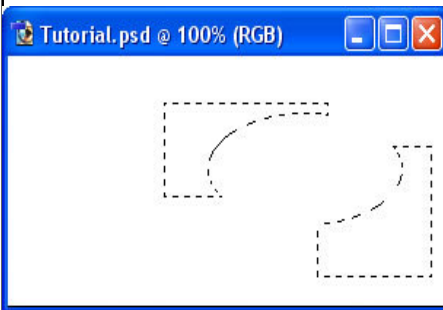


Elliptical Selections and subtracting Selections

Hold down on the Selection Tool on the Toolbar, and choose the Ellipse.

To move the selection, just click inside it and drag.

Holding 'Alt' key while selecting subtracts that area from the selection.



Choosing a color

	Before get started on coloring your selection, you will need to pick a color. This part of the Toolbox is where you select your colors. The top square is the foreground color. If you use a brush or paint bucket, it will apply this color. The bottom square is the background color. It has various purposes, but it's also a good place to store a second color that you're using. <i>Click on either square to change its color.</i> <i>Click the arrow to swap the two colors.</i> <i>Click the little squares to reset the colors to black and white.</i>
--	--

The Paint Bucket and Gradient tools

	These two tools are on separate buttons in Adobe Photoshop 5.0, but share a button in Adobe Photoshop 6.0 and Adobe Photoshop 7.0. To select one, click and hold. On a new layer, just click the Paint Bucket tool inside the area of your selection to fill it with the colour you've selected. Click and drag from one area to another to fill the area. The point where you started to click will be the foreground colour, and the point where you took your finger off the mouse button will be background colour. The area in between will gradually change from one color to the other.
--	---

Other Adobe Photoshop tools of interest include:

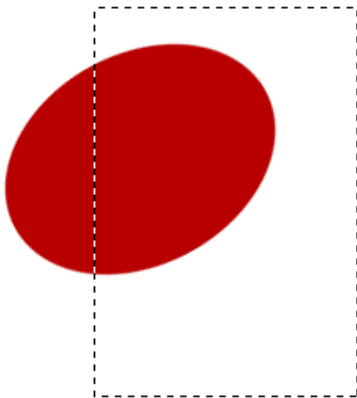
The Text Tool – Just click it wherever you want text to appear. Choose a font, colour, and size, and start typing.

The Move Tool – Use this tool to drag things around. If you have a selection, it will drag the contents of the selection. If not, it will drag the contents of the layer you're on.

9.5.3 Sample Examples

Example 1: *Creating a Flower Petal*

Follow the steps to create a flower Petal:



**te and cut the edge
shape.**

- a. Create a new layer.
 - b. Use the Elliptical Selection Tool to select an elliptical area.
-

- c. Choose a darkish red colour, and fill the area with the Paint Bucket Tool.
- d. Press Ctrl+D to remove the selection.
- e. Press Ctrl+T to transform your shape. Drag a corner around, to rotate your shape, until it's in a position similar to the one shown in the diagram than **press Enter key**.
- f. With this Selection tool, select a large part of your shape that you wish to cut off, so that the remaining part of the shape resembles half a petal. Go back and rotate the shape if need to. After section- go to Edit – Cut to cut off the selected area.

2. Creating a Whole Petal

- a. Right-click on your petal layer in the Layers list. It should be called "Layer 1".
 - b. Click Duplicate Layer.
 - c. Click Edit → Transform → Flip Horizontal
 - d. Choose the Move Tool, and use the arrow keys to nudge the two half-petals around until they join to make a whole petal. Note: pressing Shift and an arrow key nudges the object around by 10 pixels at a time, instead of 1.
 - e. Click on the "Layer 2" layer in the Layers list. This should be your new, rotated half of the petal. Press Ctrl+E to merge this layer down, so that the petal is all on one layer.
-

3. Adding Texture and Lighting to the Petal

- a. Click Filter → Noise → Add Noise. Set it to around 10%, Gaussian, Monochromatic.
- b. Set your colors back to black and white, and then switch the colors, by using the little icon, or pressing "D".
- c. In the Layers list, right-click this layer and choose Blending Options. Click Gradient Overlay. Set the Opacity to 25%, but leave the Mode as Normal. Set the Angle to 90° and change the Style to Reflected. Press OK.
- d. Ctrl+Click this layer in the Layers list to select its area.
- e. Choose the Brush Tool. Click the drop-down box and choose the size 35 blurry brush. Set the brush's Opacity to 20%. Apply the brush around the outside of the petal, to create a shadowy area, as shown.
- e. Press Ctrl+D to deselect.

4. Saving a File

Photoshop provides several ways for you to save files

- Go to **File** menu and, click on save; the file will be saved in its current file format(.PSD)
- Go to file menu and click **Save As**. This lets you save an alternate version of the file in a different format.
- Go to **File** menu and, click on **Save for Web**. This lets you save the file in a format that can be used in a web.

➤ Saving as JPEG

To save in .JPEG format: go to **File** → **Save As** → give **File name**

→ Choose the **format** JPEG → click **Save** → specify image options(Quality – Maximum, high, medium or low) → click **OK**

➤ Same way you can save file in **GIF format**

Example 2: *Creating a navigation menu*

Follow the steps to create a navigation menu:

1. Create a new image in Photoshop, around 30 pixels high by 550 wide.
2. Fill it with the same orange you used in the header.
3. Use the Type Tool, and insert appropriate white text for your navigation bar. To separate out the words, put a Bar between each word (press Shift + \)
4. Click File > Save for Web.

INTEXT QUESTION

1. Write True or False for the following:
 - (a) Dynamic Hyper Text Make up language is a new web page creation software.
 - (b) Hit counters are used to track the number of times the page has been accessed.
 - (c) Lasso Tool allows the user to draw a selection area with the cursor.
 - (d) .PSP is the file format for saving a file in photoshop.
 - (e) The commonly used audio formats are AVI and MPEG.
-

9.6 ANIMATION USING MACROMEDIA FLASH

Flash is a revolutionary technology on the Internet through which multimedia content sites can be developed with ease. Websites made up of music, videos and custom graphic intensive

interfaces are all possible with Flash.

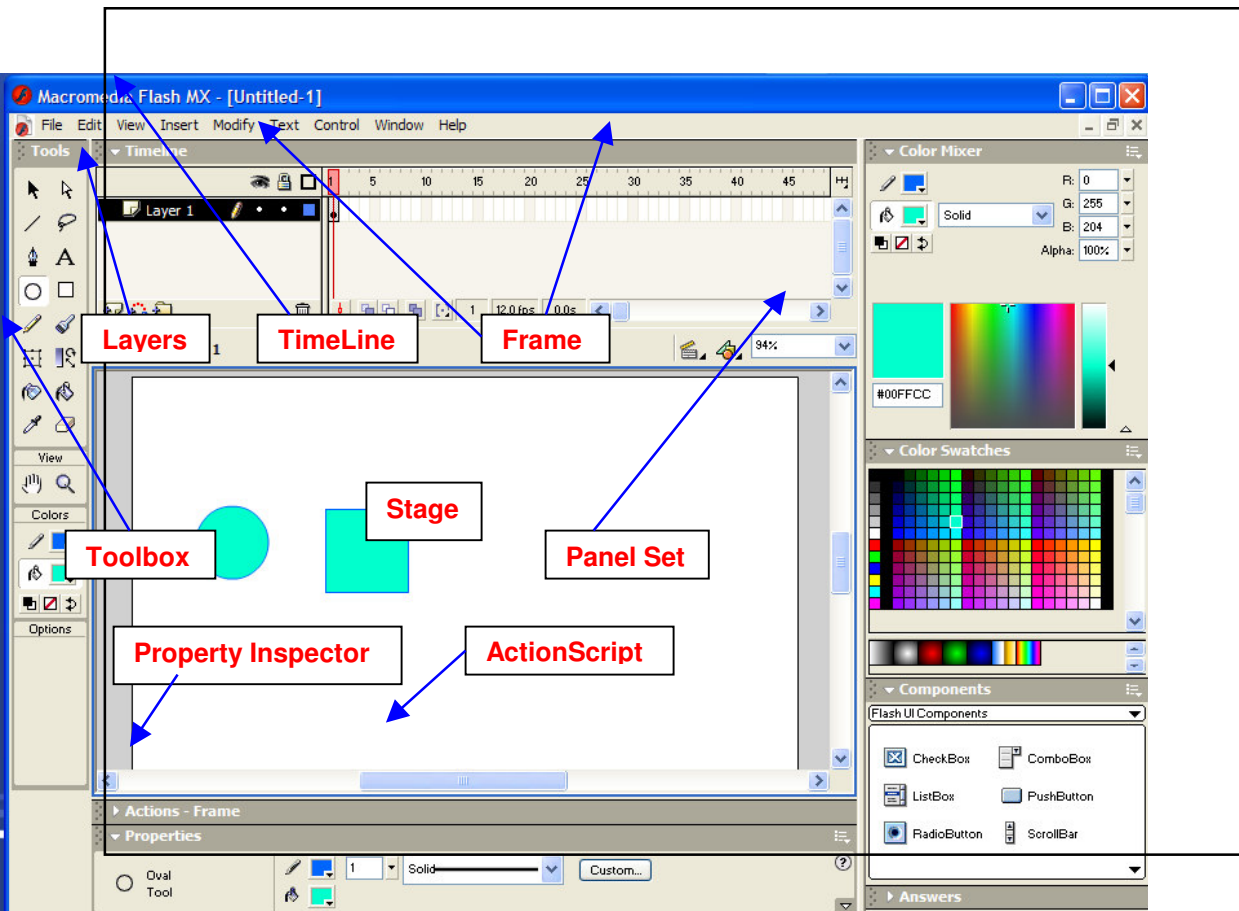
9.6.1 What is flash?

- Flash is a multimedia graphics program specifically for use on the web.
- Flash enables you to create interactive movies on the web.
- Flash uses vector graphics, which means that the graphics can be scaled to any size without losing clarity/quality.
- Flash does not require programming skills and easy to learn.

9.6.2 Getting started with Flash

The Flash workspace

The workspace provides easy access to everything you need to create a movie.



The workspace consists of the following components:

- **Stage**

The stage is where you draw and import art work, add text and sound, and add additional features such as navigation buttons or user interface components.

- **Toolbox**

The toolbox contains tools, you'll use to create, place and modify text and graphics.

- **Panels**

The panels in flash assist you in working with objects on the stage, the entire document, the Timeline, and actions. You can display the panel set you use most often by choosing Window? Panel Sets or by creating custom Panel Set.

- **Timeline**

The Timeline organizes and controls a movie's content over time.

Like films, flash divides length of time into frames, each frame can have its own content, or it can use the content of a previous frame.

- **Layers**

To help organize the content, the Timeline is divided into layers. A background layer, for example, may carry over into each frame of a movie, while an animation layer may be for a specific frame.

- **Property Inspector**

The Property Inspector displays the most frequently used settings for a tool or object.

- **ActionScript**

ActionScript is the built in programming language provided with flash. You can create ActionScript in the actions panel.

9.6.3 Working with Flash

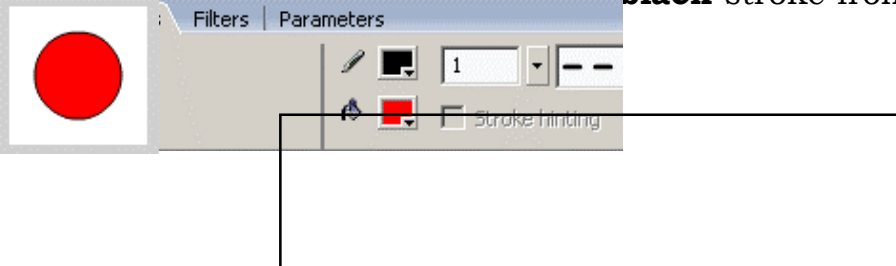
Creating a Flash Button

Follow the steps to create a moving object:

1. Start a Flash Document : go to **Start** → **All Program** → **Macromedia** → **Macromedia Flash MX** (This will open a new flash document with name Untitled-1)
2. From the Tools window select the Oval shape tool.



3. Select the red fill and the **black** stroke from the Properties



4. Hold shift and left click on the stage and drag to create a circle like the one we have below.



5. Select the arrow tool from the Tools menu and double click the circle to select both the red fill and the black stroke. Right click the circle and choose Convert to Symbol
-

Name: My_Button, Behavior: Button, Registration: Center/Center



Press OK

6. With the arrow tool, double click My_Button to bring up the symbol edit mode for My_Button. We are now going to change the behavior when the user mouses over the button. Choose the *Over* column from the timeline for My Button.

Insert KeyFrame in the Over state. (A shortcut for inserting Keyframes is the F6 key or select the state Over and press right click to insert Keyframe)



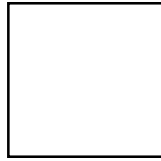
7. With frame *Over* still selected, double-click the circle to select it and choose a blue fill from the Properties window.



8. Select *Down* in the Timeline for My_Button and insert a KeyFrame for *Down*.

With frame *Down* still selected, double-click the circle to

select it and give it a yellow fill using the Properties window.



9. Testing Out Button States

Go to the Flash menu and navigate to: Control → test Movie. Mouse over and click your button. Notice that it changes colors!

10. Adding a Button Action: GetURL

Now we want our button to actually do something, so let's make it so when you click the button it loads up the NIOS(National Institute of Open Schooling) website nios.ac.in. From the menu choose: **Edit→Document**

Right click our button and choose "Actions" from the pop
tions
L. Be

getURL : Tell Web browser to navigate to specified URL

URL:	http://www.nios.ac.in
Window:	_blank
Variables:	Don't send

Double click getURL to create a new getURL action, which also brings up the text fields you will need to manipulate. In the URL field type in: `http://www.nios.ac.in` In the Window field type or select: `_blank`

11. Finish Button Creation!

You're done creating a fully function Flash Button! From the menu choose: **Control** → **Test Movie** to test out your flash button. When you click the button it now launches website of NIOS!

12. Saving Flash Document

Go to **File** → **Save As** → give **File Name** say myButton, click **Save**

*Flash MX Document's are saved with an **extension .fla** i.e. the file saved as myButton.fla*

9.6.4 Flash Embedded in HTML

To embed the Flash movie you just made into an HTML page, you should go back to your Flash program and do the following steps:

Step-1

Choose **File** → **Open**. Open a Flash movie you have created.

Step-2

Choose **File** → **Export Movie**.

Step-3

Name the file "somefilename.swf", say myButton.swf. Choose the location where the file is to be stored (in your Web folder). Click OK.

Step-4

Open the HTML page where you want to insert your Flash movie. Insert this code:

```
<object width="550" height="400">
  <param name="movie" value="somefilename.swf">
  <embed src="somefilename.swf" width="550" height="400">
</embed>
</object>
```


Note: This is the minimum code you need to embed a Flash movie in a browser. A broken icon will appear on the Web page if the user does not have the Flash plug-in installed.

Note: In the code above there is both an <embed> tag and an <object> tag. This is because the <object> tag is recognized by Internet Explorer, and Netscape recognizes the <embed> tag and ignores the <object> tag.

Step-5

Type in the address of the HTML file in your browser and look at your first Flash movie.

9.6.5 Flash Animation: Tweening

The basic idea behind tweening is to create animation by taking two points in time and automatically creating an animation to fill in the gap between them.

Tweening comes from the words "**in between**".

With Tweening you can go from one keyframe to another and specify changes in the animation and let the Flash program create the frames in between.

Example -1

How to make an object move across the screen.

Follow the steps to create a moving object:

Step-1

Create a small circle to the left in the Stage area. Do this by selecting the circle tool from the left toolbar. Draw the circle in the Stage area.

Step-2

Select the Arrow tool from the left toolbar. Double-click on the circle to select it.

Step-3

Now we have to convert the circle to a symbol. When the circle is converted to a symbol we can create instances of the circle. From

the top menu choose Modify > Convert to Symbol. Name the symbol "Ball", and select OK.

Step-4

Go to Frame 50 in the Timeline. Do this by clicking the gray field below 50. Then right click in this field. Choose Insert Keyframe. Keyframes appear as circles in a frame. This operation duplicates the image.

Note: A keyframe specifies changes in an animation. You create keyframes at important points in the Timeline and let Flash create the frames in between.

Step-5

Select the circle and move it to the right a couple of inches.

Step-6

Click on the Timeline any place between Frame 1 and Frame 50. Then right click and choose Create Motion Tween.

Step-7

Choose Control → Test Movie from the top menu to test your Flash movie.

Example-2

How the text moves across the screen.

Follow the steps to create a moving text:

Step-1

Insert a text in the upper left corner of the Stage area. Do this by selecting the text tool from the left toolbar. Write some text in the "textarea".

Step-2

Select the arrow tool from the left toolbar. Click on the text once to select it.

Step-3

Convert the text to a symbol. From the top menu choose **Insert** → **Convert** to Symbol. Name the symbol "text", choose graphic from the Behavior list and select OK.

Step-4

Go to Frame 30 in the Timeline. Do this by clicking the gray field below 30. Then right click in this field. Choose Insert Keyframe. Keyframes appear as circles in a frame.

Step-5

Click on the Timeline any place between Frame 1 and Frame 30. Then right click and choose Create Motion Tween.

Step-6

Go back to Frame 30 in the Timeline. Move the text to the lower right corner.

Step-7

Make sure the text is selected. Choose **Modify** → **Transform** → **Flip Horizontal**.

Step-8

Choose **Control** → **Test Movie** from the top menu to test your Flash movie. The text should move from the first location (in frame 1) to the second location (in frame 2). The text should also turn around on its way to the second location.

INTEXT QUESTION

2. Write True or False for the following:
- (a) Flash is multimedia graphics program use in web designing.
 - (b) The property Inspector displays the most frequently used setting for a tool or object.
-

- (c) Choose modify → Transform → Flip Horizontal to test Flash movie.
 - (d) Flash divides length of time into frames.
-

9.7 WHAT YOU HAVE LEARNT

In this lesson we discussed about the concept of multimedia in webpage. Here we described how to use photoshop in image processing. You also learnt the step by step use of Flash in animation.

9.8 TERMINAL QUESTIONS

1. Why use Multimedia in your web page? How to embed Audio/Video in web page?

Using Adobe Photoshop:

2. Try out the different kind of Selection shown in figure.
 3. Create the objects as shown in figure and fill appropriate color.
 4. Create the leaf as shown in figure
-

Using Macromedia Flash

1. Create an elliptical button with changing color on mouse over and mouse down, create a link to the website <http://google.co.in>, and use this in your web page.
2. Create an object and to move it horizontally across the screen.
3. Move your name left to right across the screen.

9.9 FEEDBACK TO INTEXT QUESTIONS

1.
 - (a) False
 - (b) True
 - (c) True
 - (d) False
 - (e) True
 2.
 - (a) True
 - (b) True
 - (c) False
 - (d) True
-

Future Trends and Legal Aspects

10.1 INTRODUCTION

Today the business has shadowed the geographical boundaries of world. Now it is the age of globalised business. In the present era of communication revolution, information can be sent from one end of globe to another end within seconds. It is possible to perform different business transactions without being presenting physically the parties involved. Now with a single mouse click, you can buy the best roses of the seasons from a distant shop or book a hotel room from the home computer or you can pay your telephone bill from your bank account without even going to the bank branch. All this is performed through Internet and termed as e-business just like e-mail. The websites involved are called business portals and are responsible for marketing, executing and safeguarding different business transactions through their sites.

Web designing is an unique subject, which involves both technical as well as legal issues. Web designing, is not just knowing about technology, but it requires considerable amount of creativity, intellectual labour and aesthetic sense. It confers certain legal rights on the designer. At the same time, the designer should not infringe others' rights in his attempt to

develop a web page. Hence today's web designers should have proper understanding of the related legal issues.

10.2 OBJECTIVES

After going through this lesson, you would be able to:

- explain the impact of e-commerce and m-commerce
- identify the factors that influence the future direction of e-commerce
- recognize the factors that determine e-commerce
- describe the concept of copyright and IT act
- appreciate legal rights over web design
- describe infringement concept of copyright
- explain disclaimer and digital certification

10.3 EMERGING TRENDS

We would discuss in this section the emerging trends in e-commerce, m-commerce, their advantages and disadvantages, modes of payments, success factors and issues in e-commerce.

10.3.1 E-Commerce

It is often referred to as simply e-commerce. It refers to business that is conducted over the Internet using any of the applications that rely on the Internet, such as e-mail, instant messaging, shopping carts, Web services, UDDI, FTP, and EDI, among others. Electronic commerce can be between two businesses transmitting funds, goods, services and/or data or between a business and a customer and even between two customers.

B2B: Business-to-business electronic commerce (B2B) typically takes the form of automated processes between trading partners. For example, a company that makes chicken feed would sell it to a chicken farm feed dealers rather than directly to consumers (chicken farms). An example of a B2C transaction would be a

consumer buying grain-fed chickens at a grocery store. B2B can also encompass marketing activities between businesses, and not just the final transactions that result from marketing.

B2C: Business-to-consumer electronic commerce (B2C) is a form of electronic commerce in which products or services are sold from a firm to a consumer. The B2C transactions can be through: (a) direct sellers and (b) online intermediaries.

- a. **Direct Sellers:** Companies that provide products or services directly to customers are called direct sellers. These types of B2C companies are the most well-known. There are two types of direct sellers: e-tailers and manufacturers. Upon receiving an order, the e-tailer ships products directly to the consumer or to a wholesaler or manufacturer for delivery. Example: www.amazon.com The manufacturer sells directly to consumers via the internet. The goal is to remove intermediaries, through a process called disintermediation, and to establish direct customer relationships. Disintermediation is not a new idea as catalog companies have been utilizing this method for years. Example: www.dell.com
- b. **Online Intermediaries:** Online intermediaries are companies that facilitate transactions between buyers and sellers and receive a percentage of the transaction's value. These firms, make up the largest group of B2C companies today. There are two types of online intermediaries: brokers and infomediaries.

Advantages: The following are advantages of using B2C E-commerce:

1. Shopping can be faster and more convenient.
 2. Offerings and prices can change instantaneously.
 3. Call centers can be integrated with the website.
 4. Broadband telecommunications will enhance the buying experience.
-

Disadvantages: The two main challenges faced by B2C e-commerce are *building traffic* and *sustaining customer loyalty*. Due to the winner-take-all nature of the B2C structure, many smaller firms find it difficult to enter a market and remain competitive. In addition, online shoppers are very price-sensitive and are easily lured away, so acquiring and keeping new customers is difficult.

C2C: Consumer-to-Consumer (C2C) e-commerce is an internet-facilitated form of commerce that has existed for the span of recorded history in the form of barter, flea markets, swap meets, yard sales and the like. Notably, most of the highly successful C2C examples using the Internet take advantage of some type of corporate intermediary and are thus not strictly “pure play” examples of C2C. An example a venue where consumer-to-consumer e-commerce of this type takes place is Ebay.

B2E: Business-to-Employee electronic commerce (B2E) uses an intrabusiness network which allows companies to provide products and/or services to their employees. Typically, companies use B2E networks to automate employee-related corporate processes.

Examples of B2E applications include:

- Online insurance policy management
- Corporate announcement dissemination
- Online supply requests
- Special employee offers

The following are some of the organizations offering services at e-commerce platform:

Financial

- PayPal
 - iBill
 - Yahoo!
-

- Moneybookers
- Webmoney (Russia)

Software

- ATG
- eMeta Corporation
- NetSuite Inc.
- osCommerce
- Wax Digital
- Zen Cart

The following are some of the entities using e-commerce:

- Amazon.com
- eBay
- exostar
- rediff.com
- Smarthome
- Nuvvo

10.3.2 M-commerce

M-commerce or mobile commerce stands for M-commerce made through mobile devices. M-commerce is currently mainly used for the sale of mobile phone ring-tones and games, although as 3G/UMTS services roll out it is increasingly used to enable payment for location-based services such as maps, as well as video and audio content, including full length music tracks. Other services include the sending of information such as football scores via SMS.

Currently the main payment methods used to enable m-commerce are:

- premium-rate calling numbers,
- charging to the mobile telephone user's bill or
- deducting from their calling credit, either directly or via reverse-charged SMS.

Other examples of m-commerce applications are information-on-demand systems like news services or stock tickers, banking and stock brokerage applications by SMS, WAP or iMode. Although there are currently very few regulations on the use and abuses of mobile commerce, this will change in the next few years. With the increased use of m-commerce comes increased security. Cell phone companies are now spending more money to protect their customers and their information from online intrusions and hackers.

Advantages: The following are advantages of using m-commerce:

1. The benefits of m-commerce include customer satisfaction, cost savings, and new business opportunities.
2. Use m-commerce anytime, anywhere with the light-weighted device.
3. Single owner has control over data whereas the mobile device can be highly personalized.
4. m-commerce can bring the buyer and seller together more easily and facilitate greater profits and a closer customer relationship.

Disadvantages: The following are disadvantages of using m-commerce.

1. Mobile devices do not generally offer the graphics or processing power of a PC.
 2. The small screens of mobile devices limit the complexity of applications.
 3. Each network has a differing approach to m-commerce meaning that the international reach and ubiquity of E-commerce will not be matched.
-

Concerns over slow transmission rates of mobile devices are less valid with UMTS gaining ground. As far as security issues are concerned, mobile devices are capable of using the same technologies (for example,. SSL) as traditional PCs.

10.3.3 Modes of Payment

We have seen a wide variety of payment schemes in ordinary business transaction like an old-age barter system, currency notes, payment orders, cheques, promisory notes etc. But due to their very nature, they all need physical appearances what is almost impossible in case of electronic commerce. Some alternate methods of payment have been discovered in the process of populating e-commerce.

Electronic money: Also known as electronic currency, digital currency, digital money or internet money refers to money which is exchanged only electronically. Typically, this involves use of computer networks, the internet and digital stored value systems. Electronic Funds Transfer (EFT) and direct deposit are examples of electronic money. Also, it is a collective term for financial cryptography and technologies enabling it.

Singapore has a very successful electronic money implementation for its public bus transportation system. The electronic money, known as EZLink by most Singaporeans, is a card which is the size of an ordinary credit card. It has a smart chip plus a wireless communication module. Passengers just need to tap the EZLink when they board the bus and tap the card again when they alight; the bus fare system automatically deducts the calculated bus fare from the EZLink value. Recently, McDonalds is setting up EZLink payment infrastructure at their fast-food branches all over Singapore's main island. It is believed that in the near future EZLink will gain more acceptance as a convenient electronic money solution in Singapore.

Alternative systems: Technically electronic or digital money is a representation, or a system of debits and credits, used (but not limited to this) to exchange value, within another system, or itself as a stand alone system, online or offline. Also sometimes the term electronic money is used to refer to the provider itself. A private currency may use gold to provide extra security, such as digital

gold currency. An electronic currency can be fully backed by gold, like e-gold, or non-gold backed, like eeeCurrency and Liberty Reserve.

Many systems will sell their electronic currency directly to the end user, such as Paypal or e-Bullion, but other systems, such as e-gold, sell only through third party digital gold currency exchangers, like OmniPay or IceGold who service orders manually, or automated websites.

In the case of Octopus Card in Hong Kong, deposits work similarly to banks'. After Octopus Card Limited receives money for deposit from users, the money is deposited into banks, which is similar to debit-card-issuing banks redepositing money at central banks.

Some community currencies, like some LETS systems, work with electronic transactions. Cyclos Software allows creation of electronic community currencies. Ripple monetary system is a project to develop a distributed system of electronic money independent of local currency.

Virtual debit cards: Some companies now propose virtual debit cards, which are prepaid and sometimes rechargeable VISA or Mastercard cards which the client can use in online merchant sites like any other VISA or Mastercard. This system has the advantage of being anonymous and more secure since the client can never be debited more than the value of his prepaid card; also this can be useful for people living in countries which do not authorize international money transfer. The card can be recharged with systems like e-Bullion, e-Gold or money transferred from another bank account.

Advantages: The following are the advantages of paying money electronically.

Most money in today's world is electronic, and tangible cash is becoming less frequent. With the introduction of internet/online banking, debit cards, online bill payments and internet business, paper money is becoming a thing of the past.

Banks now offer many services whereby a customer can transfer funds, purchase stocks, contribute to their retirement plans and

offer a variety of other services without having to handle physical cash or checks. Customers do not have to wait in lines.

Debit cards and online bill payments allow immediate transfer of funds from an individual's personal account to a business's account without any actual paper transfer of money. This offers a great convenience to many people and businesses alike.

Disadvantages: The following are the disadvantages of paying money electronically.

Although there are many benefits to digital cash, there are also many significant disadvantages. These include fraud, failure of technology, possible tracking of individuals and loss of human interaction.

Fraud over digital cash has been a pressing issue in recent years. Hacking into bank accounts and illegal retrieval of banking records has led to a widespread invasion of privacy and has promoted identity theft.

There is also a pressing issue regarding the technology involved in digital cash. Power failures, loss of records and undependable software often cause a major setback in promoting the technology.

Privacy questions have also been raised; there is a fear that the use of debit cards and the like will lead to the creation by the banking industry of a global tracking system. Some people are working on anonymous e-cash to try to address this issue.

10.4 SUCCESS FACTORS IN E-COMMERCE

Technical and organizational aspects: In many cases, an e-commerce company will survive not only based on its product, but by having a well-organized business structure and a secure, well-designed website. Such factors include:

1. Providing an easy and secure way for customers to order. Credit cards are the most popular means of sending payments on the internet, accounting for 90% of online purchases. Card numbers are transferred securely between the customer and merchant through independent
-

payment gateways.

2. Providing reliability and security. Parallel servers, hardware redundancy, fail-safe technology, information encryption, and firewalls can enhance this requirement.
3. Providing a 360-degree view of the customer relationship, defined as ensuring that all employees, suppliers, and partners have a complete view, and the same view, of the customer.
4. Constructing a commercially sound business model. If this key success factor had appeared in textbooks in 2000, many of the dot.coms might not have gone bust.
5. Engineering an electronic value chain in which one focuses on a “limited” number of core competencies - the opposite of a one-stop shop.
6. Operating on or near the cutting edge of technology and staying there as technology changes.
7. Setting up an organization of sufficient alertness and ability to respond quickly to any changes in the economic, social and physical environment.
8. Providing an attractive website. The tasteful use of colour, graphics, animation, photographs, fonts, and white-space percentage may aid success in this respect.
9. Streamlining business processes, possibly through re-engineering and information technologies.

Naturally, the e-commerce vendor must also perform such mundane tasks as being truthful about its product and its availability, shipping reliably, and handling complaints promptly and effectively. An unique property of the Internet environment is that individual customers have access to far more information about the seller than they would find in a brick-and-mortar situation.

Customer-Oriented: A successful e-commerce organization must also provide an enjoyable and rewarding experience to its customers. Many factors go into making this possible. Such

factors include:

1. **Providing value to customers.** Vendors can achieve this by offering a product or product-line that attracts potential customers at a competitive price, as in non-electronic commerce.
2. **Providing service and performance.** Offering a responsive, user-friendly purchasing experience.
3. **Providing an incentive for customers to buy and to return.** Sales promotions to this end can involve coupons, special offers, and discounts. Cross-linked websites and advertising affiliate programs can also help.
4. **Providing personal attention.** Personalized web sites, purchase suggestions, and personalized special offers may go some of the way to substituting for the face-to-face human interaction found at a traditional point of sale.
5. **Providing a sense of community.** Chat rooms, discussion boards, soliciting customer input and loyalty programs (sometimes called affinity programs) can help in this respect.
6. **Owning the customer's total experience.** e-tailers foster this by treating any contacts with a customer as part of a total experience, an experience that becomes synonymous with the brand.
7. **Letting customers help themselves.** Provision of a self-serve site, easy to use without assistance, can help in this respect.
8. **Helping customers do their job of consuming.** E-tailers and online shopping directories can provide such help through ample comparative information and good search facilities. Provision of component information and safety-and-health comments may assist e-tailers to define the customers' job.

10.5 ISSUES IN E-COMMERCE

Even if a provider of e-commerce goods and services rigorously

follows these seventeen “key factors” to devise an exemplary e-commerce strategy, issues can still arise. Sources of such issues include:

1. **Failure to understand customers, why they buy and how they buy.** Even a product with a sound value proposition can fail if producers and retailers do not understand customer habits, expectations, and motivations. e-commerce could potentially mitigate this potential problem with proactive and focused marketing research, just as traditional retailers may do.
 2. **Failure to consider the competitive situation.** One may have the capability to construct a viable book e-tailing business model, but lack the will to compete with Amazon.com.
 3. **Inability to predict environmental reaction.** What will competitors do? Will they introduce competitive brands or competitive web sites? Will they supplement their service offerings? Will they try to sabotage a competitor’s site? Will price wars break out? What will the government do? Research into competitors, industries and markets may mitigate some consequences here, just as in non-electronic commerce.
 4. **Over-estimation of resource competence.** Can staff, hardware, software, and processes handle the proposed strategy? Have e-tailers failed to develop employee and management skills? These issues may call for thorough resource planning and employee training.
 5. **Failure to coordinate.** If existing reporting and control relationships do not suffice, one can move towards a flat, accountable, and flexible organizational structure, which may or may not aid coordination.
 6. **Failure to obtain senior management commitment.** This often results in a failure to gain sufficient corporate resources to accomplish a task. It may help to get top management involved right from the start.
 7. **Failure to obtain employee commitment.** If planners do
-

not explain their strategy well to employees, or fail to give employees the whole picture, then training and setting up incentives for workers to embrace the strategy may assist.

8. **Under-estimation of time requirements.** Setting up an e-commerce venture can take considerable time and money, and failure to understand the timing and sequencing of tasks can lead to significant cost overruns.
9. **Failure to follow a plan.** Poor follow-through after the initial planning, and insufficient tracking of progress against a plan can result in problems. One may mitigate such problems with standard tools: benchmarking, milestones, variance tracking, and penalties and rewards for variances.
10. **Becoming the victim of organized crime.** Many syndicates have caught on to the potential of the Internet as a new revenue stream. Two main methods are as follows:
 - a. Using identity theft techniques like phishing to order expensive goods and bill them to some innocent person, then liquidating the goods for quick cash.
 - b. Extortion by using a network of compromised “zombie” computers to engage in distributed denial of service attacks against the target Web site until it starts paying protection money.

INTEXT QUESTION

1. Write True or False for the following:
 - (a) E-commerce can only be possible if two parties are physically present.
 - (b) Two categories in B2C are direct sellers and on line intermediaries.
 - (c) M-commerce cannot bring the buyer and seller together more easily.
 - (d) Electronic money is known as electronic currency.
-

- (e) on line insurance policy management is the example of C2C.
-

10.6 LEGAL ASPECTS

In this section, you will learn the legal aspects of web designing. We are discussing the relevant provisions of Copyright Act, 1957 with its various amendments (Act No. 14 of Year 1957 which came into force on 21st January 1958, vide Notification No. S.R.O. 269, dated 21-1-1958, Gazette of India) and the Information Technology Act, 2000 (No. 21 of 2000, passed on 15 May 2000 and came into force on 17 October 2000). Along with this, we are also discussing some general legal principles concerning the creation and use of web designing.

10.6.1 Copyright

Copyright is a form of intellectual property. The importance of copyright has increased enormously in recent period due to the rapid technological development in the field of computer industry and due to the advent of Internet.

The object of copyright law is to encourage artists, designers and authors to create original works by rewarding them with the exclusive right to a limited period to exploit the work for monetary gain. Copyright is the right of the owner to reproduce or permit someone else to reproduce copyrighted works. Though it is intangible in nature, it can be legally protected. Copyright protects not the idea but the original expression of the idea by artists/ writers etc. To get copyright in a web design, the designer has to give the ideas a concrete form. Mere providing of idea, though it is original and brilliant, does not give any right because ideas are not copyrightable. To qualify for copyright protection, the design must be original. That is, it must originate from the designer him/herself. The designer must have bestowed his/her personal skill, judgments and efforts upon the work. The design must be the result of the intellectual labour of the designer himself, and it must not be a copied one.

The written matter in the web page may be considered as literal work and copyright can be claimed for this, if it is original. The

design will be protected as an artistic work. The designer's right extends to all pictures, graphics, HTML and text.

The 'copyright' in the design is very much important for a web-designer. The designer owns 'copyright' in his original artistic design of the web page. That creation (design) is an intellectual property of the designer, which can be protected from infringers. The designer gets a bundle of rights the moment he /she **creates** a web page.

Rights: The works in which copyrights subsists are enlisted under section 13 of the Copyright Act, 1957 and the various rights granted to the creators of original work are enumerated under section 14 of the Copyright Act, 1957. Original literary, dramatic, musical and artistic works, cinematographic film and sound recording etc. are copyrightable subject matters. A computer programme is entitled for copyright protection as a literary work. The copyright confers exclusive rights to do or authorize others to do certain acts (those conferred under section 14) in relation to the copyrighted work. The right for doing the respective acts extends not only to the whole of the work but also to any substantial part thereof or to any adaptation or translation thereof.

The copyright gives the designer both '*moral*' and '*economic*' rights. The economic rights consists of:

- Right to prevent all others from copying his design.
- Right to publish, communicate, make adaptation, license, assign etc. of the design.

The moral right confers on the original designer the right to claim authorship and to restrain other from any distortion, mutilation, modification, etc. of the work (section 59). The economic rights guaranteed under the Copyright Act lie with the copyright owner. The moral rights guarantee under the Copyright Act lie with the copyright author.

Registration: Registration of the work under the Copyright Act is not compulsory to acquire copyright. Copyright in a design subsists automatically as soon as the original design is created. Since, copyright registration is a powerful tool in combating

infringement, and ensures the best evidence to protect the work and rights, registration of the webpage and design is advisable. Registration carries much evidentiary value. Registration can be done by making an application to the Copyright office. Registration is the fast, effective and low cost way to protect the work from infringement and misuse. Indian copyright office is functioning under the Ministry of Human Resource Development. Presently the copyright office is situated in Delhi. Section 44 of the Copyright Act, 1957 provides for the registration of all works in which copyright subsists. Chapter IV of the Copyright Rules, 1956 sets out the procedure for the registration of a work. Application for registration is to be made to the Registrar of Copyrights in the prescribed form (Form IV along with Statement of Particulars prescribed in the first schedule to the Copyright Rules, 1956) along with the prescribed fees.

Term: The duration of copyright depends on the nature of work. Usually for literary, dramatic, musical, artistic work etc, the owner of the work will get lifetime protection plus sixty years. Likewise, the designer will get copyright in his design during his/her lifetime plus sixty years. After the expiry of this period, the work will fall into public domain.

Authorship v/s Ownership: It is desirable for the designers to claim copyright in the design itself. In order to claim the rights, it is important to decide who is the 'author' and the 'owner' of the web design. The person who creates the design (the designer) is the author. An author (designer/ artist) may create a work on his own behalf or at the instance of another person (commissioned work). If the designer designs a web page at his own initiative, then the designer is the author as well the owner of the copyright in the work. If the designer creates the design for a valuable consideration, then the owner is the person at whose instance the design is made/who is commissioning the work. If the design is created by an employee in a contract of service and in the course of his employment, then the employer is the owner of the copyright. There can be a special contract to the contrary also.

License: The designer can give license to others to use his/her copyrighted design and permit the licensee to exercise his/her exclusive rights. License is an authorization to do the acts in respect of which only the designee has rights. If it is done by any

other person without license, it would be an infringement. The designer can license all or some of his rights to the licensee. The license deed must be in writing and signed by the owner of the copyright.

Copyright Notice: Designer's copyright is protected by law; the minute something is created, copyright protection comes automatically, whether the author has a copyright notice or not. Still, it is advisable to give a copyright notice on the web. Copyright notice can be given on the web with © symbol. For example, if X is the designer and the design n is created in 2006, the notice will be: **Copyright © X 2006. All rights reserved.** The copyright notice will be a warning to the whole world making copying and reproduction illegal. The owner of the copyright can give the notice as follows.

All content of this web site is Copyright © 2006 X. Except where explicitly stated, all rights are reserved, and content should not be copied, modified, deleted, adapted, redistributed, or otherwise used without the prior written permission of X. Any publication, copying, hiring, lending and reproduction of any materials is strictly prohibited and constitutes infringement.

Infringement: A particular web design will be available to an Internet navigator (browser) at a mouse click. The browser is legally entitled to see, read, appreciate and understand the web contents and the web design. Anything more will be an unauthorized act; for example, copying, downloading etc. the reason being whatever appears on the web is the product of creator's ingenuity. Others are not at liberty to use the labour and skill of another for the purpose of producing their work. Most copyright owners on the Web will not object to the personal use of their Web pages. But, unauthorised copying or reproduction or commercial exploitation of the design in any form by a person without authority constitutes infringement. (Infringement literally means violation of some legal rights. In copyright, infringement stands for violation of the exclusive rights granted to copyright holder). Reproduction of a web page can include printing a web page, copying the html, java script or other code of a page, downloading an image to hard drive, printing an image etc.

Whoever wants to copy or download any contents on the protected Web must obtain consent/ permission/ authority of the copyright holder. Otherwise that will constitute infringement. So a designer, in his/her attempt to create a web page, must not use anything from another person's site, be it writing, images, graphics or html code, unless there is permission. Owner of the copyright or an exclusive licensee can initiate legal action against infringer. A suit relating to infringement can be instituted in a District Court or a High Court. An infringement suit must be filed within 3 years from the date of infringement. Civil and Criminal remedies are available in case of copyright infringement. Civil remedies include injunction, damages or accounts of profit and delivery up of infringing copies. Criminal remedies include imprisonment of the infringer, fine and seizure of infringing copies. The Registrar of copyright has power to order delivery of infringing copies.

Doctrine of fair use: Generally, copyright owners have the legal right to prevent the reproduction of a copyrighted work, and to demand royalty (payment) when copyrighted work is reproduced. A strict enforcement of these rights may hinder the dissemination of knowledge and education. Hence, the doctrine of fair use permits researchers, educators, scholars, etc. to use copyrighted works without seeking permission or paying royalties. To put it in another way, a copyrighted work may be used fairly for certain legally permitted purposes without infringing the rights of copyright owners. This exemption can be used only for research, education, criticism, *bonafide* private use etc. This is not a right to use somebody else's work in anyway, but this doctrine can be taken as a defense against accusations of infringement, if the use of a copyrighted work was a reasonable fair use. If a use is challenged by the owner as infringement, then it will be the user's burden to prove that his/her use was a "fair use".

In India, fair use of any copyrighted work is permitted by virtue of section 52 of the Copyright Act. Section 52 provides that fair dealing can be done for private study, review, criticism, research etc. No consent of the owner is required for any sort of fair dealing. If a person can bring the action in the ambit of section 52, then it will not constitute infringement.

10.6.2 Disclaimer

Even though utmost care and caution is taken in the creation of a web page, there can be some inevitable errors. This is very true especially in cases of information and other contents on the web are concerned. Hence, it is the usual practice to give a 'disclaimer' in every web site. A disclaimer is an acknowledgment by the author/ creator of the web page that he/she does not claim any accuracy, completeness, or usefulness of information and contents disclosed on the web. This means that the author/ designer does not warrant or assume any legal liability or responsibility for the correctness of the contents. If a properly framed disclaimer is there then the designer /author shall not be liable for any errors or delays in the content or data, or for any actions taken in reliance thereon. So, to be on the safer side, you must have a disclaimer on your web. The following illustrates a standard form of disclaimer, supposing X is the owner of the website:

Informations and contents on this site should not be regarded as legal advice or opinion. For Informations and contents available at this site, X do not warrant or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any information. While X made reasonable efforts to ensure that the information is both accurate and honest, X cannot accept any liability regarding the accuracy or completeness of information.

10.6.3 Digital Certification

In this electronic era, more transactions are carried out over Internet and electronic records are commonly used everywhere. This necessitated legal recognition of electronic records and digital signature. By virtue of the Information Technology Act, the secure electronic records and secure digital signature have been granted legal validity and enforceability. (Digital signature is an encryption and decryption process allowing both the positive identification of the author of an electronic message and verification of integrity – that is the message is not tampered with during transmission - of the message. A digital signature certificate is a computer-generated record, which contains the identity of the holder (subscriber) of the certificate. A Certifying Authority can issue a digital signature certificate to a subscriber.

A digital signature certificate consists of a string of characters and the signatory's name, title, certificate serial number, the name of the certificate authority *etc.* Section 35 of the IT Act and the Certifying Authorities Rules framed under the IT Act provides for the methods for issuance of a digital signature certificate. A digital signature certificate can be suspended on a request from the subscriber or from an authorized person or in public interest). The IT Act also provides security procedure for electronic records and digital signatures.

The IT Act also prescribes conditions for revocation of digital signature certificates, if requirements for issuance of the Digital Signature Certificate were not satisfied, for example:

- Where the subscriber or any other person authorized by him makes a request to that effect; or
- Upon the death of the subscriber, or
- Upon the dissolution of the firm or winding up of the company where the subscriber is a firm or a company.
- If it is obtained by false representation

10.6.4 IT Act- Salient Features

The Information Technology (IT) Act, 2000 is Indian Cyber Law. It aims to provide a legal and regulatory framework for the promotion of e-commerce and e-governance. With this enactment, the electronic documents have got legal recognition. The Act, among other things, enabled:

- Legal recognition to electronic transaction / record.
- Facilitate electronic commerce and electronic data interchange
- Prevent computer crime, forged electronic records, international alteration of electronic records fraud, forgery or falsification in electronic commerce and electronic transaction.

The IT Act also facilitates electronic filing of documents with the Government agencies, electronic record keeping and data

protection, signature in e-documents and authentication E-Gazette, E-taxation etc. It also establishes Cyber Appellate Tribunal for the adjudication of cyber offences. In this lesson, we mainly concentrate on computer related offences and their punishment covered under the IT Act.

Network service providers' liability for offences committed by third party: Section 79 of the Act reads as under:

“For the removal of doubts, it is hereby declared that no person providing any service as a network service provider shall be liable under this Act, rules or regulations made thereunder for any third party information or data made available by him if he proves that the offence or contravention was committed without his knowledge or that he had exercised all due diligence to prevent the commission of such offence or contravention.

Explanation. -For the purposes of this section, -

- (a) “network service provider” means an intermediary;
- (b) “third party information” means any information dealt with by a network service provider in his capacity as an intermediary.”

Damage to computer system: The Act defines ‘damage to computer system’ as:

“If any person without permission of the owner or any other person who is in charge of a computer, computer system or computer network, -

- a. accesses or secures access to such computer, computer system or computer network;
 - b. downloads, copies or extracts any data, computer data base or information from such computer, computer system or computer network including information or data held or stored in any removable storage medium;
 - c. introduces or causes to be introduced any computer contaminant or computer virus into any computer, computer system or computer network;
-

- d. damages or causes to be damaged any computer, computer system or computer network, data, computer data base or any other programmes residing in such computer, computer system or computer network;
- e. disrupts or causes disruption of any computer, computer system or computer network;
- f. denies or causes the denial of access to any person authorized to access any computer, computer system or computer network by any means;
- g. provides any assistance to any person to facilitate access to a computer, computer system or computer network in contravention of the provisions of this Act, rules or regulations made thereunder;
- h. charges the services availed of by a person to the account of another person by tampering with or manipulating any computer, computer system, or computer network.”

The penalty for damage to computer, computer system etc. has been fixed as damages by way of compensation not exceeding rupees one crore to the affected persons.

Offences: The IT Act defines various types of computer crimes and attaches stringent penalties for the same. The IT Act also applies for offences or contraventions committed outside India. The Act penalizes hacking of the computer system. Whoever with the intent to cause or knowing that he is likely to cause wrongful loss or damage to the public or any person destroys or deletes or alters any information residing in a computer resource or diminishes its value or utility or affects it injuriously by any means, commits hacking. Punishment for hacking as a cyber crime is imprisonment up to 3 years or fine that may extend to Rs 2,00,000/- or both. The Act punishes publishing of obscene matter on computer. The imprisonment may extend up to five years with a fine of up to Rs.1,00,000 (for second and subsequent convictions, imprisonment of upto 10 years and a fine of upto Rs. 2,00,000). The government has authority under the Act to notify certain computer systems or networks as being “protected systems”, unauthorised access to which may be punishable with imprisonment upto 10 years in addition to a fine.

Under sections 43 and 44 of the IT Act, the following are civil offences:

- Copy or extract any data, database
- Unauthorised access & downloading files
- Introduction of virus
- Damage to computer System and Computer Network
- Disruption of Computer, computer network
- Denial to authorized person to access computer
- Providing assistance to any person to facilitate unauthorised access to a computer
- Charging the service availed by a person to an account of another person by tampering and manipulation of other computer
- Failure to furnish information, return etc. to the Controller by certifying authorities.

Criminal offences: Sections 65 to 75 of the IT Act make the following offences punishable:

- Tampering with computer source documents (i.e. listing of programmes)
 - Hacking with computer system
 - Electronic forgery, i.e., affixing of false digital signature, making false electronic record
 - Electronic forgery for the purpose of cheating
 - Electronic forgery for the purpose of harming reputation
 - Using as genuine a forged electronic record
 - Publication of digital signature certificate for fraudulent purpose
 - Offences and contravention by companies
-

- Unauthorised access to protected system
- Confiscation of computer, network, etc.
- Publication of information which is obscene in electronic form
- Misrepresentation or suppressing of material face for obtaining
- Breach of confidentiality and Privacy
- Publishing false Digital Signature Certificate

INTEXT QUESTION

2. Write True or False for the following:
- (a) Copyright is a form of intellectual property.
 - (b) Registration of the work under the copy right Act is compulsory to acquire copy right.
 - (c) A digital signature certificate is a computer generated record contains the identity of the holder.
 - (d) Copyright owners have the regal right to prevent the reproduction of copy righted work.
-

10.7 WHAT YOU HAVE LEARNT

Here we explained the impact of e-commerce and M-commerce alongwith the factors that influence the future direction of e-commerce. We discussed the concept of copy rights and IT act. You also learnt about discliamer and digital certification.

10.8 TERMINAL QUESTIONS

1. Define B2B, B2C and C2C transactions with suitable examples in each category.
 2. Name different various parties coming under B2C category
-

and brief about the activities performed them.

3. Discuss how the monetary transactions are performed on Internet and different types of cash replacement used.
4. What is m-commerce? What are future implications associated with it?
5. Write about different issues that may affect the popularity of e-commerce.
6. What is product suitability? Describe its relevance with respect to e-commerce.
7. Brief about security threats to different transactions performed in Internet.
8. Explain the concept of Copyright in relation to the designer of a web Page?
9. Briefly explain the following:
 - a) Offences under IT Act
 - b) Digital certification
 - c) Copyright notice
 - d) Disclaimer
 - e) Need for copyright registration

10.8 FEEDBACK TO INTEXT QUESTIONS

1. (a) False (b) True
(c) False (d) True
(e) False
 2. (a) True (b) False
(c) True (d) True
-

Setting up a Web Designing Unit

11.1 INTRODUCTION

As the Twentieth Century progresses, with the evolution of diversified technologies, the economy is changing from manufacturing to a **Service** and **Information** based economy. This information economy provides services and information **anywhere** and **anytime**, which have now become two key attributes to the success of any business in the complex and competitive global scenario. In this fast moving Information age, the standard media like print, radio, and television plays very little role.

Internet, the medium that connects the entire world on real time basis satisfies the basic need to get information cutting across geographical and political barriers and has become an indispensable tool in everybody's life. The websites contain all relevant business information and provides easy access to organizational information to all the interested stakeholders on real time basis. The websites, the storehouse of information dedicated to various domains such as health, education, news, entertainment, publishing, etc. are the building blocks of information super highway converting the world into a global village.

Every organization small or big, old or new wants their presence on the Internet. This is required by the organizations to have their own website to put the various types of information pertaining to the customers, products, services, policies, etc. For example educational institutions have their websites to provide on-line student information, books, conducting virtual classes, etc.; the media industry use websites to put the day to day happenings in the country and the world on the internet; publishing houses create their websites to facilitate sale & purchase of books online on payment basis through an on-line catalogue; banking industry have their presence on the internet to provide online banking and financial services, etc. This creates a huge demand for web designers in the Internet Age.

11.2 OBJECTIVES

After going through this lesson, you would be able to:

- identify major inputs to a business unit
- design website for an individual/organization
- open a small Web Designing Unit
- train the people on Internet and web designing
- identify the various requirements in setting up a Web Designing Unit
- adopt good business practices required for an entrepreneur

11.3 INPUTS TO A BUSINESS

The important inputs to a business are:-

- Will Power
- Place
- Capital
- Finance

Will Power

This is the first and the foremost input required for setting up a

web designing unit. You must make up your mind well before starting any business, as business involves risk. A person who wants to set up a business either in trade or industry is called an entrepreneur. An entrepreneur makes best use of the available machinery, manpower and money for producing goods or providing service. A unit set up by an entrepreneur is called an enterprise. Web Designing Unit is also an enterprise which provides services to others. Once you decide to set up an enterprise in Web Designing Unit, you look for a suitable place.

Place

Place for a Web Designing Unit (WDU) unit involves generally a room of 120-200 sq. ft. meter. The space should be sufficient for installing computer and accessories, office space and space for visitors. The space may be your own or rented. For a Web Designing Unit, it is better if the place is nearer to a commercial complex or government offices. The office space must have electricity and telephone connection.

Capital

Once you decide on the place of your business, you require money. Money invested in the business is called **Capital**. Capital is **fixed** when it involves procuring land, building, equipment, machinery, vehicles, furniture and fixtures, etc. **Working capital** is required for meeting day to day expenses of an enterprise. These include purchase of raw material, stationery, payment of bills like water, electricity, telephone, wages of staff/labourer and traveling/conveyance charges.

Fixed capital

Fixed capital generally remains constant over a longer period and is required only in the beginning stage. On the other hand, working capital is required continually. It is implied that after sometime money starts coming out of the business and thus working capital is met out of the turnover.

For a basic Web Designing Unit the fixed capital involves the following equipment, furniture and other expenses.

A. Fixed Capital: Item/Equipment	Quantity	Rate(Rs.)
1. Computer with Multimedia facilities: (Speaker, DVD writer, Graphics card, Audio and Video card, UPS, modem, Flash drive)	1	40,000/-
2. Laser Printer	1	10,000
3. Scanner	1	4,000
4. Computer Table	1	2,000
5. Computer chair	1	1,000
6. Working Table	1	2,000
7. Working Chair	1	1,000
8. Software (Windows XP, Adobe Photoshop, front page, Dream weaver Macromedia flash)	1	15,000
9. Internet Connection		2,000
10. Miscellaneous		3,000
11. Total		80,000

B. Working Capital (per month)	Rate(Rs.)
1. Rent of room	4,000
2. Electricity, water bill etc.	1,000
3. Telephone & Internet connection	1,000
4. Wages of Web designing and one helper	4,000
5. Raw material (Paper CD,DVD, cartridge etc.)	3,000
6. Conveyance/Travel	1,000
7. Miscellaneous Expenses (Repair & Maintenance, Utilities etc.)	1,000
8. Total	15,000
9. Total Investment (Fixed Capital + Working Capital)	95,000

C. Expected Turnover (Per month) (8 pages per day @ Rs. 150/- per page for 25 working days Less Expenses Repayment of Loan Rent, Wages, Telephone etc.	30,000 3,000 15,000
--	---------------------------------------

Depreciation (@ 20% industry norms)	1,000
Total:	19,000
Surplus of income over expenditure (profit)	11,000

Thus you can expect a profit of Rs.11,000/- per month by setting up one Web Designing Unit. If you set up Web Designing Unit the profit will be proportionately higher as the overhead expenses like rent, electricity, telephone etc. will be distributed. Suppose you took a loan of 80,000/- for a bank and you need to repay Rs.3,000/- per months for a period of 36 months.

After 3 years you do not have to repay the loan and your income will increase by Rs. 3,000/-.

As already said all this is only an estimated figures. In actual conditions the profit may vary, it may increase or decrease. Much of it depends on your hard-work, wisdom and intelligence & marketing promotant efforts.

Having moved by the **Profit Motive**, you are now be certain to establish your own Web Designing Unit. Here is some guidance on how to arrange the capital. If you are lucky to have the money arranged from your own/family sources, it is fine. Otherwise, the following sources may be tapped.

Banks

Banks, whether private or cooperative, provide loans under different schemes. The rate of interest and terms generally vary from bank to bank. Interest rates are decreasing steadily as well as the process is becoming easier.

Government Department

Various departments and ministries of the Central/State Government have different schemes under which financial assistance loans are available. Prime Minster Rozgar Yojana (PMRY) is one such scheme. Some of the departments which provide financial assistance are:

- Department of Rural Development
- Department of Small Scale Industries

- Department of Tribal Development
- Department of Minorities Development
- Department of Women Development

Small Scale Industries Institute (Govt. of India) provides valuable help in preparing project report and procuring machinery and raw material. This institute has its headquarter in Okhla (New Delhi) and branch offices in all state capitals and major cities. Addresses of this institute and other government may be obtained from the nearest Employment Exchange or the Office of the District Collector.

Finance is generally available for Fixed Capital, i.e., one time only. Generally up to 80% finance is available and rest you have to arrange from your resources. This difference is called the **Seed Money**. In our model calculation, we had estimated that a capital of approximately Rs.95,000/- is required for setting up a Web Designing Unit. Out of this, loan upto Rs.80,000/- will be financed by the banks/institutions and Rs.15,000 will have to be arranged by you.

For working capital banks may grant you overdraft facility. Thus, by investing about 15,000/- you get a profit of over Rs.11,000/- per month which is reasonably good. However, profit can be increased by increasing business which will be the result of improved efforts and hard work put in the direction.

Good Business Practices

Other than the financial aspects of a business, an entrepreneur should also take care of good business practices. These practices not only pay in the long run but also create harmony and cordial environment in the society. These practices are:

- (1) Be polite to the customers. Always greet and receive them properly. Remember that **Service with a Smile** does not cost but brings reputation to your business.
 - (2) Be punctual and adhere to the delivery schedule. If the job of a customer is not ready by scheduled time, inform her/him in advance and apologise.
-

- (3) Be honest in dealings. Charge reasonably and honestly from the customers. Make prompt payments to your suppliers.
- (4) Pay your dues and taxes in time. It is our earnest duty to pay the taxes honestly. Taxes are the revenue for the government. This money is used for the welfare of the society.
- (5) Try to explore new business opportunities. Diversify your business. For example, while accepting jobs for web designing you may also use the same infrastructure for training learners. Always keep yourself updated with new technological advancements. Newspapers, professional journals and Internet are a good source of knowledge.

By diversifying and expanding your business, you not only increase your profit and status but also work for a great cause of creating jobs for others. You are fulfilling your duty towards the nation and the society.

Please note that scope and opportunities in any business are indefinite and only sky is the limit.

Wish you a happy business.

SAMPLE QUESTION PAPER

1. Introduction to Windows XP

1. What does GUI stand for? (1)
2. What is the use of Control Panel in Windows XP? (1)
3. Name the default application used for playing media files in windows XP. (1)

2. Computer Network & Communication

1. Differentiate between analog and digital signals in communication. (2)
2. Describe any two network topologies (2)
3. ?

3. Internet and Services

1. Define internet (1)
2. What is a search engine? Name any two search engines. (2)
3. What is URL?
4. Differentiate between a website & web page (1)

4. Introduction to HTML

1. Name the tag & attribute to do the following :
 - (i) Change the background color of the webpage.
 - (ii) Place an image on the right hand of the webpage.
 2. Write the HTML code to generate the following list.
Asian Countries
 1. India
 2. Japan
 3. China
 4. Pakistan
-

5. Advance HTML

1. Differentiate between <TR> and <TD> tags. (1)
2. Write the HTML code to generate the following table. (1)

Delhi	Rs. 700
Mumbai	Rs. 650
3. Write the HTML code to generate the following form :

Registration Form

Name

Stream :

Science Commerce Humanities

Submit Cancel

6. Planning & Designing

1. Name any four things that should be considered while planning a website. (2)
2. What is a static website? (1)
7. Developing website using Tools
1. Name any two software pages used for creating a website. (1)
2. List any two views available in frompage. (1)
3. Write the steps to insert a graphic file into a webpage using frontpage. (2)

8. Scripting

1. What is client side scripting? (1)
 2. Name the two conditional statements used in Java script. (1)
 3. Write the Javascript code to accept the age from the uses check whethes he is a senior citizen (age > = 60) or not. Display the message "Senior Citizens should be respected" if he is a senior citizen else display "Your age is below 60". (2)
-

9. Advanced Topics

1. Which tag is used for embedding sound in a HTML document? (1)
2. What are the following tools of Photoshop used for :
(a) Lasso (b) Paint Bucket (2)
3. What is tweening in Flash? (1)

10. Legal Aspects & Future Trends in Internet

1. What is B2C e-commerce (1)
 2. Name any one mode of payment that can be used in e-commerce. (1)
 3. What is copy right? (1)
-

Blue Print

Subject : Certificat in Web Page Designing Class:

Maximum Marks : 40

Time : 2 Hrs

Sl. No.	Objective Form of Questions Content Unit	Knowledge			Understanding Application						Skill	Total
		E	SA	VSA	E	SA	VSA	E	SA	VSA		
1.	Introduction to windows XP	-	-	1(2)	-	-	1(1)	-	-	-		3
2.	Computer Network and Communication	-	2(1)	-	-	2(1)	-	-	-	1(1)		5
3.	Interest and Services	-	-	-	-	2(1)	1(2)	-	-	-		5
4.	Introduction to HTML	-	-	-	-	2(1)	-	-	2(1)	-		4
5.	Advance HTML	-	-	-	-	-	1(1)	-	2(1)	1(1)		4
6.	Planning & Designing website	-	-	2(1)	1(1)	-	-	-	-	-	-	3
7.	Developing website using Tools	-	-	2(1)	1(2)	-	-	-	-	-	-	4
8.	Scripting	-	-	-	-	-	1(2)	-	2(1)	1(1)		5
9.	Advance Topics	-	2(1)	-	-	-	1(2)	-	-	-		4
10.	Legal Aspects & Future Trends in Internet	-	-	1(3)	-	-	-	-	-	-		3
	Sub Total		8(4)	9(9)	-	6(3)	8(8)	-	6(3)	3(3)		
	Total		17(13)			14(11)			9(6)			
	40(30)		40									

Notes : Figures within brackets indicate the number of questions and figures outside the brackets indicate marks.

* Denotes that marks have been combined to form one question.

Summary

Essay (E) No. _____ Marks : _____

Short-Answer (SA) No. 10 Marks : 20

Very Short Answer (VSA) No. 20 Marks : 20

Objective (O) No. _____ Marks : _____

Question Paper Design

Subject :
Class: Sr. Secondary

Certificate in Web Page Designing

Paper :
Hrs

Marks : 40

Duration

1. Weightage by objectives

Objective	Marks	% of total marks
Knowledge	17	42.5
Understanding	14	35
Application	9	22.5
Skill		

2. Weightage by types of questions

Type	Number of Questions	Total	Estimated marks a candidate can expect
Long answer questions	—	—	
Short answer questions	10	20	
Very short answer questions		20	

3. Weightage by content

Units/Sub-units (pl. specify)	Marks

