INFORMATION AND COMPUTER TECHNOLOGY

CLASS – IX

CENTRAL BOARD OF SECONDARY EDUCATION

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Information and Computer Technology Class IX

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भारत का संविधान

उद्देशिका

हम, भारत के लोग, भारत को एक सम्पूर्ण [1]प्रभुत्व-संपन्न समाजवादी पंथनिरपेक्ष लोकतंत्रात्मक गणराज्य बनाने के लिए, तथा उसके समस्त नागरिकों को:

सामाजिक, आर्थिक और राजनैतिक न्याय,
विचार, अभिव्यक्ति, विश्वास, धर्म
और उपासना की स्वतंत्रता,
प्रतिष्ठा और अवसर की समता
प्राप्त कराने के लिए
तथा उन सब में व्यक्ति की गरिमा
[2]और राष्ट्र की एकता और अखंडता
सुनिश्चित करने वाली बंधुता बढ़ाने के लिए

दृढ़संकल्प होकर अपनी इस संविधान सभा में आज तारीख 26 नवम्बर, 1949 ई॰ को एतद्द्वारा इस संविधान को अंगीकृत, अधिनियमित और आत्मार्पित करते हैं।

1. संविधान (बयालीसवां संशेधन) अधिनियम, 1976 की धारा 2 द्वारा (3.1.1977) से ''प्रभुत्व-संपन्न लोकतंत्रात्मक गणराज्य'' के स्थान पर प्रतिस्थापित।
2. संविधान (बयालीसवां संशेधन) अधिनियम, 1976 की धारा 2 द्वारा (3.1.1977) से ''राष्ट्र की एकता'' के स्थान पर प्रतिस्थापित।

भाग 4 क

मूल कर्त्तव्य

51 क. मूल कर्त्तव्य – भारत के प्रत्येक नागरिक का यह कर्त्तव्य होगा कि वह:

(क) संविधान का पालन करे और उसके आदर्शों, संस्थाओं, राष्ट्रध्वज और राष्ट्रगान का आदर करे;

(ख) स्वतंत्रता के लिए हमारे राष्ट्रीय आंदोलन को प्रेरित करने वाले उच्च आदर्शों को हृदय में संजोए रखे और उनका पालन करें;

(ग) भारत की प्रभुता, एकता और अखंडता की रक्षा करे और उसे अक्षुण्ण रखे;

(घ) देश की रक्षा करे और आह्वान किए जाने पर राष्ट्र की सेवा करे;

(ङ) भारत के सभी लोगों में समरसता और समान भ्रातृत्व की भावना का निर्माण करे जो धर्म, भाषा और प्रदेश या वर्ग पर आधारित सभी भेदभाव से परे हों, ऐसी प्रथाओं का त्याग करे जो स्त्रियों के सम्मान के विरुद हैं;

(च) हमारी सामाजिक संस्कृति की गौरवशाली परंपरा का महत्तव समझे और उसका परीक्षण करे;

(छ) प्राकृतिक पर्यावरण की जिसके अंतर्गत वन, झील, नदी, और वन्य जीव हैं, रक्षा करे और उसका संवर्धन करे तथा प्राणीमात्रा के प्रति दयाभाव रखे;

(ज) वैज्ञानिक दृष्टिकोण, मानववाद और ज्ञानार्जन तथा सुधार की भावना का विकास करे;

(झ) सार्वजनिक संपत्ति को सुरक्षित को रखे और हिंसा से दूर रहे;

(ञ) व्यक्तिगत और सामूहिक गतिविधियों से सभी क्षेत्रों में उत्कर्ष की ओर बढ़ने का सतत प्रयास करे जिससे राष्ट्र निरंतर बढ़ते हुए प्रयत्न और उपलब्धि की नई ऊंचाइयों को छू ले;

[1](ट) यदि माता-पिता या संरक्षक है, छह वर्ष से चौदह वर्ष तक की आयु वाले अपने, यथास्थिति, बालक या प्रतिपाल्य के लिये शिक्षा के अवसर प्रदान करे।

1. संविधान (छयासीवां संशेधन) अधिनियम, 2000 द्वारा प्रतिस्थापित।

THE CONSTITUTION OF INDIA

PREAMBLE

WE THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a [1]**SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC** and to secure to all its citizens:

JUSTICE, social, economic and political;

LIBERTY of thought, expression, belief, faith and worship;

EQUALITY of status and of opportunity; and to promote among them all

FRATERNITY assuring the dignity of the individual and the2 unity and integrity of the Nation;

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949, to **HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION**.

1. Subs, by the Constitution (Forty-Second Amendment) Act. 1976, sec. 2, for "Sovereign Democratic Republic" (w.e.f.. 3.1.1977)

2. Subs, by the Constitution (Forty-Second Amendment) Act. 1976, sec. 2, for "Unity of the Nation" (w.e.f.. 3.1.1977)

Chapter IV A

FUNDAMENTAL DUTIES

ARTICLE 51A

Fundamental Duties: It shall be the duty of every citizen of India:

(a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;

(b) to cherish and follow the noble ideals which inspired our national struggle for freedom;

(c) to uphold and protect the sovereignty, unity and integrity of India;

(d) to defend the country and render national service when called upon to do so;

(e) to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;

(f) to value and preserve the rich heritage of our composite culture;

(g) to protect and improve the natural environment including forests, lake, rivers, wild life and to have compassion for living creatures;

(h) to develop the scientific temper, humanism and the spirit of inquiry and reform;

(i) to safeguard public property and to abjure violence;

(j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement;

[1](k) to provide opportunities for education to his/her child or, as the case may be, ward between age of 6 and 14 years.

1. Subs, by the Constitution (Eighty-Sixth Amendment) Act. 2002.

Foreword

In the 21st century, an ability to work with information and communication technologies is becoming as essential to education, life and workplace success as "reading, writing and arithmetic".

Information Communication Technology (ICT) has anextensivehorizon and includes all the technologies used for communication of information. These includedevices such as computers, internet and intranet, local and wide area networks (wired and wireless), voice mail, e-mail,audio visual systems, compact discs and video discs, broadcast receiving systems and telecommunication systems, media, printed media, virtual learning centers,instructional software, education television, satellite communication, cable TV, conventional and interactive radio used in teaching and learning.

In this century it has become mandatory that everyone must have a basic understanding of ICT and must learn to make productive use of it, in-order to be good students and employable workers.Hence it is necessary for teaching fraternity to make a conscious effort and devise curriculum to impart valuable knowledge and skills required for computing and communications devices i.e. software that operates them, applications that run on them and systems that are built with them.

Be it e-learning, blended learning or distant learning ICT has completely penetrated in school education and has brought a major transformation inteaching and learning process. It has become an integral and indispensable part of modern education system.

Recognizing the potential value of ICT in education, CBSE wants to ensure proper integration of ICT in schools and its use in pedagogy.

I am happy to release Information and communication Technology Book for Class – IX. I would like to express my deep appreciation to the text book development team for their contribution. Appreciation is also due to Dr. Sadhana Parashar, Prof. and Director (Academics, Research, Training and Innovation) and Dr. KshipraVerma, Education Officer, CBSE in bringing out this publication.

It is hoped that all students and teachers will benefit by making best use of this publication. Their feedback will be highly appreciated for further improvement.

Vineet Joshi

Chairman

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Chapter 1
Basics of Internet

Learning Objectives

By the end of this chapter, learner will be able to:

- Define the Internet.
- List the features of WWW.
- Differentiate between the Internet and WWW.
- Understand the working of Search Engines.
- List different types of servers with their purpose.
- Understand the different components of a Website.
- Appreciate the use of different protocols.
- State the advantages & disadvantages of creating Blogging.

INTRODUCTION

Today we live in a world of technology, where internet spins a web of interconnectivity around the globe. Through internet more than fifty million people in countries around the world have been connected. Internet was evolved in 1969, under the project named ARPANET(Advanced Research Projects Agency Network) to connect computers at different universities and U.S. defence. Soon after the people from different backgrounds such as engineers, scientists, students and researchers started using the network for exchanging information and messages.

In 1990s the internetworking of ARPANET, NSFnet and other private networks resulted into Internet. Therefore, Internet is a 'global network of computer networks'. It comprises of millions of computing devices that carry and transfer volumes of information from one device to the other. Desktop computers, mainframes, GPS units, cell phones, car alarms, video game consoles, are connected to the Net.



1. WORLD WIDE WEB

1.1 History of World Wide Web

The World Wide Web was invented by Tim Berners-Lee in 1989, in 1995 the first connection was established over what is today known as the Internet.

By the end of 1990, the first Web page was served. In April 1993, the World Wide Web technology was available for anyone to use on a royalty-free basis.

Since that time, the Web has changed the world. It has perhaps become the most powerful communication medium the world has ever known.

A global Web of computers known as the Internet, allows individuals to communicate with each other often called the World Wide Web. The Internet provides a quick and easy exchange of information and is recognized as the central tool in this Information Age.

1.2 Definition

The World Wide Web (WWW) is an internet based service, which uses common set of rules known as Protocols, to distribute documents across the Internet in a standard way.

The World Wide Web, or 'Web' is a part of the Internet. The Web is viewed through web browser softwares such as Google Chrome, Internet Explorer, Mozilla Firefox etc. Using browsers one can access the digital libraries containing innumerable articles, journals, e-books, news, tutorials stored in the form of web pages on computers around the world called Web Servers. Today thousands of web pages/websites are added to the WWW every hour.

1.2 Difference between Internet and WWW

The Internet is known as "interconnection of computer networks". The Internet is a massive network of networks. It connects millions of computers together globally, forming a network in which any computer can communicate with any other computer as long as they are both connected to the Internet. Information that travels over the Internet does so via a variety of languages known as protocols.

The World Wide Web, or "Web" for short, or simply Web, is a massive collection of digital pages to access information over the Internet.

The Web uses the HTTP protocol, to transmit data and allows applications to communicate in order to exchange business logic. The Web also uses browsers, such as Internet Explorer

or Firefox, to access Web documents called Web pages that are linked to each other via hyperlinks. Web documents also contain graphics, sounds, text and video.

1.3 Search Engines

Search engines are the programs which are needed to extract the information from the internet. They play a very important role in our daily routine, as today for each and every information we are dependent on internet.

Web search engines work with the help of two programs, Spider which fetches as many documents as possible. Another program, called an indexer, reads the documents and creates an index based on the words contained in each document. Each search engine uses an algorithm to create its indices such that, only related results for specified keywords is stored and returns a list of the documents where the keywords were found.

A search engine works in the following order:

1. Web crawling: Web search engines work by storing information about many web pages. These pages are retrieved by the program known as Web crawler - which follows every link on the site. Web crawler may also be called a Web spider.
2. Indexing: Indexing also known as web indexing, it stores data to facilitate fast and accurate information retrieval.
3. Searching: A web search query fetches the result from the web search engine entered by the user to meet his information needs.

Few search engines available are as follows:



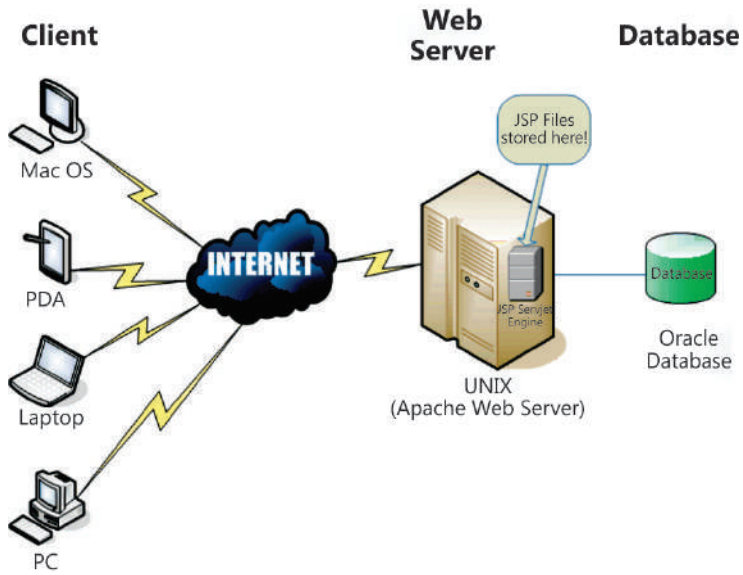
2. WEB SERVERS

2.1 What is a Server?

A server is a computer that provides data to other computers. The entire structure of the Internet is based upon a client-server model.

Web server helps to deliver web content that can be accessed through the Internet. The most common use of web servers is to host websites, as the internet is not only used to

fetch the information but there are other uses such as gaming, data storage or running business applications.



The primary job of a web server is to deliver web pages to clients. The communication between the client node and server node takes place using the Hypertext Transfer Protocol (HTTP). The delivered web pages include images, style sheets and scripts in addition to text content.

2.2 Server Software

A **web server** commonly known as **HTTP server** or **application server** is a program that serves content using the HTTP protocol. This content is generally in the form of HTML documents, images, and other web resources, but can include any type of file. The content served by the web server can be pre-existing (static content) or generated on the fly (dynamic content).

1. **Apache web server - the HTTP web server:** Apache Software Foundation developed the free and open source web server and can be installed and made to work on almost all operating systems including Linux, Unix, Windows, FreeBSD, Mac OS X and more. Almost, 60% of the web server machines run the Apache web server



2. **Apache Tomcat:** Apache Tomcat is free and open source web server that can run on different operating systems like Linux, Unix, Windows, Mac OS X, Free BSD. It was developed to support servlets and JSP scripts. It can serve as a standalone server.



3. **Lighttpd:** Lighttpd is a free web server distributed with the FreeBSD operating system. This open source web server is fast, secure and consumes much less CPU power. Lighttpd can also run on Windows, Mac OS X, Linux and Solaris operating systems.



4. **Jigsaw:** Jigsaw (W3C's Server) is introduced by the World Wide Web Consortium. It is open source and free and can run on various platforms like Linux, Unix, Windows, Mac OS X Free BSD etc. Jigsaw is written in Java thus can run CGI scripts and PHP programs.



2.3 Services Provided by the Servers

Today many services are being provided by the Web Server. Many of the servers are based on Cloud computing which is popular amongst the researchers, scientists & entrepreneurs.

Cloud Computing is distributed computing over a network, and has the ability to run a program or application on many connected computers at the same time.

It is used, where various computing concepts that involve a large number of computers are connected via real-time communication network such as the Internet.

Various services provided by the Web server are:

1. **Cost Efficient:** Web server is the most cost efficient method to use, maintain and upgrade. Traditional desktop software costs companies a lot in terms of finance. On the other hand, it is available at much cheaper rates. Besides, there are many one-time-payment, pay-as-you-go and other scalable options available, which makes it very reasonable for the company.
2. **Resource Sharing:** Web Server has the capability to store unlimited information such as Google Drives, Cloud computing etc. The space where the data can be stored is shared by the other users at the same time like hard disk can be shared on physical network as LAN.
3. **Data Sharing:** With the help of web servers one can easily access the information from anywhere, where there is an Internet connection using Google docs such as Documents, Excel sheets, Drawings, Powerpoint presentations etc.
4. **Backup and Recovery:** As all the data now a days is stored on web servers, backing it up and restoring the same is relatively much easier than storing the same on a physical device. Hence, the entire process of backup and recovery much simpler than other traditional methods of data storage.

2.4 Types of Servers

1. **Mail Server:** Mail Servers provides a centrally-located pool of disk space for network users to store and share various documents in the form of emails. Since, all the data is stored in one location, administrators need only backup files from one computer.
2. **Application Server:** An application server acts as a set of components accessible to the software developer through an API defined by the platform itself. For Web applications, these components are usually performed in the same running environment as its web server(s), and their main job is to support the construction of dynamic pages.
3. **File Transfer Protocol (FTP) Server:** FTP uses separate control and data connections between the client and the server. FTP users may authenticate themselves in the form of a username and password, but can connect anonymously if the server is configured to allow it. For secure transmission username and password must be encrypted using FTP and SSL.
4. **Database Server:** A database server is a computer program that provides database services to other computer programs or computers using client-server model. Database management systems frequently provide database server functionality, and some DBMSs (e.g., **MySQL**) depend on the client-server model for database access.

   Such a server is accessed either through a "front end" running on the user's computer where the request is made or the "back end" where the request is served such as data analysis and storage.
5. **Domain Name System (DNS) Server:** A name server is a computer server that hosts a network service for providing responses to queries. It maps a numeric identification or addressing component. This service is performed by the server in response to a network service protocol request.

   The primary function of these DNS servers is the translation (resolution) of human-memorable domain names and hostnames into the corresponding numeric Internet Protocol (IP) addresses. The secondary function of DNS is to recognize a name space of the Internet, used to identify and locate computer systems and resources on the Internet.

3. WEB SITE

3.1 Definition

The collection of web pages on the World Wide Web that is accessed by its own Internet address is called a Web site. Thus, a Web site is a collection of related Web pages. Each Web site contains a home page and contains other additional pages. Each Web site is owned and updated by an individual, company, or an organization. Web is a dynamically moving and changing entity, today web sites generally change on a daily or even hourly basis.

3.2 How Website is different from Portal?

Web portal is a medium by which users access the resources, while a website is a destination in itself. Portals and websites are distinct entities which are linked together, but they should not replace each other. A website is also a portal, if it broadcast information from different independent resources where as Web Portal refers to a website or services that provide varied resources and services such as email, forums, search engines and online shopping malls.

Some of the web portals are AOL, iGoogle, Yahoo and even more.

A website refers to a location or a domain name hosted on a server which is accessible via internet. It is a collection of web pages, images, videos which are addressed relative to a Uniform Resource Locator (URL). Websites provide content from independent resources to specific audience. The content of the website is generally focused & contains the material needed to be accessed.

3.3 Components of Website

1. **Contents of a Web Page:** A webpage of a website must contain the basic elements such as Page title, URL, file name, header, footer, navigation, web page content are all parts to the composition of a web page.
2. **Website Graphics:** Always use web graphics which have been optimized for optimum download speed, as the web hosting space affects the performance of the website.
3. **Heading of the site:** Headings in a website play a crucial role as they not only present a clear structure of the web page to the audience and help the search engines to retrieve the required information.
4. **Effective Colour Contrast**: As the websites are used to retrieve the information related to specific purpose or topic. It is very important to take care of the presentation of the contents of the sites. So that, website visitors must not have any difficulty in reading a web page. As some times when we pick a colour scheme for our website we forget that there are people with poor vision and colour deficiencies.

3.4 Elements of Website, are as follows:

- **Good Visual Design:** A site must be appealing and if required, must be professional. Your site reflects your company, your products and your services.
- **Screen Resolution:** As we know that websites are displayed on the screen of electronic devices and every device has different resolution. Today, the average web surfer uses a resolution of 1024 x 768 pixels. However, you need to make sure that your website looks good at this setting and must work nicely for other resolutions too.

- **Colour Scheme & Text Formatting:** To make the website presentable appropriate colour scheme must be used. Always use 2 or 3 primary colours that reflect the purpose of your site. Add contrast colours in your site, which helps the user to easily read the text. Use fonts that are easy to read and available on most of today's computer systems. Keep the standard font size for paragraph text i.e. between 10 and 12 pts.
- **Insert Meaningful Graphics:** Graphics are important, as they provide the site a legible and interactive appearance. However, don't use too many images and that too with a high resolution. First, whenever user will try to download the website it will take too long to download and secondly, too many images with less text, lose the interest of the customer.
- **Simplicity:** Keep your site simple and allow for adequate white space. Don't overload your site with complex design, animation, or other effects to impress your viewers.
- **Relevant Content:** Include relevant information along with style, to help the visitors to make a decision.
- **Navigation:** Keep your site simple and well organized. Don't use fancy Navigation Bar in your website. Place all the menu items at the top of your site, or above the fold on either side. Include Site Maps in your site to reduce the number of top level navigation items. Every component of your site should work quickly and correctly. Broken or poorly constructed components will frustrate the visitors. All the hyperlinks, contact forms, should be placed appropriately.
- **Minimal Scroll:** While surfing the sites for information users do not like scrolling the page instead they need to see all the information on one screen. Even the Search Engines will reward you for this behaviour.
- **Consistent Layout:** Always use a consistent layout in the whole website which will help you to retain the theme of the site.
- **Cross-platform/browser Compatibility:** Today many open source browsers are being used by the users. Create a website which should be platform independent.

3.5 Construction of Website

Steps to build a Website

Step 1: Hosting

The first step in constructing a website is to decide about the web hosting provider for your site.

There are several types of Web hosting options you can choose from such as:

Free Web hosts: Most people want to go for free Web hosting. On one hand it is free but on the other hand, you don't always get much space, due to low bandwidth.

Search a Web Hosting Provider: These are the links to other sites for finding a good host for your site.

Step 2: Domain Name

You can plan your website in two ways: using a domain name and without using a domain name. You can put up a site on free hosting or even paid hosting plans. A domain name provides extra branding for your site and makes it easier for people to remember the URL.

Step 3: Plan Your Website

After deciding the domain and your URL, you can start planning your site. You need to decide the audience aimed at.

Select the type of site: Most websites are either news/information, product, or reference sites. Each has a different focus. A site must have formal language, where as a personal site can use slang and an informal tone.

Step 4: Build Your Website Page by Page

For building a website you need to work on one page at a time. To build your site you should be familiar with the key elements of the site as discussed above.

Step 5: Publish Your Website

After the completion of the design now it is the time to publish your website on web. You can do this either with the tools using your hosting service or with FTP clients. Knowing which you can use depends upon your hosting provider.

Step 6: Promote Your Website

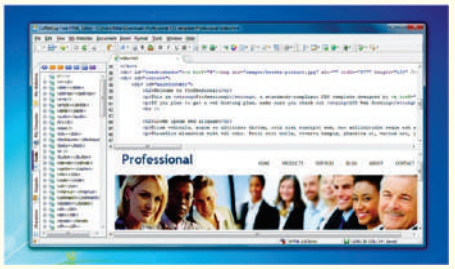
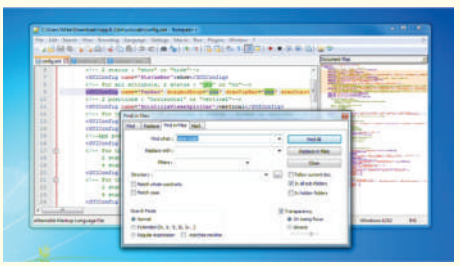
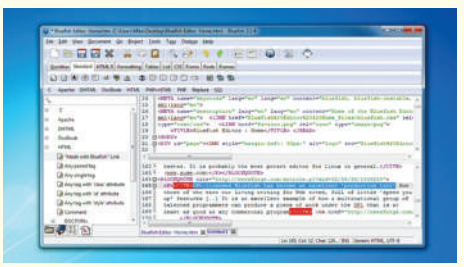
There are many ways to promote a website such as web search engine, word of mouth, email, and advertising. You build your Web content so that it ranks well in commonly used search engines. This can be difficult, but it is inexpensive and can result in good results if you work at it.

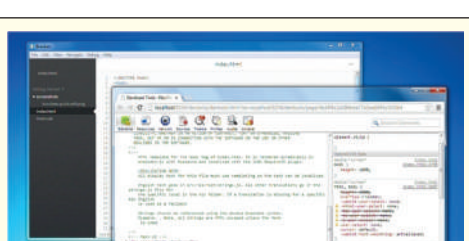
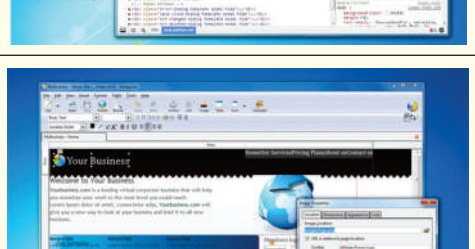
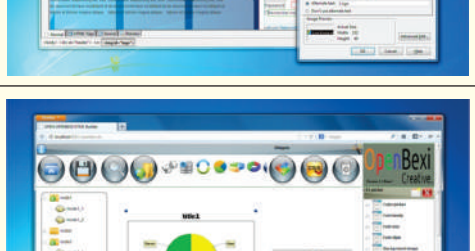
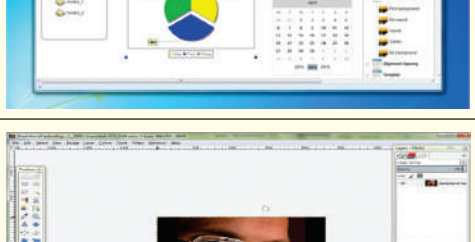
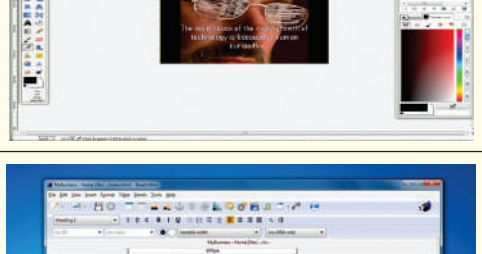
Step 7: Maintain Your Website

Maintenance is the last step of constructing a site which helps in keeping your site updated with the latest trends of market. In order to keep your site going well and looking good,

you need to test your site frequently. And you should also work on content development on a regular basis.

3.6 Software used to Create Website:

CoffeeCup Free HTML Editor	
Notepad++	
PageBreeze	
Firebug	
Bluefish Editor	

Brackets	
KompoZer	
OpenBEXI	
GIMP	
BlueGriffon	

4. WEBPAGE

4.1 Definition

A Web page also known as Electronic Page, is a part of the World Wide Web. It is just like a page in a book. The basic unit of every Web site or document on the Web is a Web page containing the information.

A Web page can contain an article, or a single paragraph, photographs, and it is usually a combination of text and graphics.

4.2 Static and Dynamic areas

A static web page often called a flat page or stationary page, is a web page that is delivered to the user exactly as stored. A static web page displays the same information for all users, such versions are available and the server is configured to do so. Such web pages are suitable for the contents that never or rarely need to be updated.

A dynamic web page is a web page which needs to be refreshed every time whenever it opens in any of the web browsers to display the updated content of the site.

4.3 What makes a web page works?

- The server receives the request for a page sent by your browser.
- The browser connects to the server through an IP Address; the IP address is obtained by translating the domain name.
- In return, the server sends back the requested page.

4.4 Difference between Webpage and Website

A web page is one single page of information, while a website is made up of a number of different web pages connected by links known as Hyperlinks.

5. Web Browser

A browser is a software that lets you view web pages, graphics and the online content. Browser software is specifically designed to convert HTML and XML into readable documents.

The most popular web browsers are: Google Chrome, Firefox, Internet Explorer, Safari, Opera and UC Browser.

5.1 TOOL BAR



The Tool Bar is much like the Menu Bar stretching from left to right across the top of your screen just under the Address Bar

Back button : Helps to open the previously opened website.

Back history : Helps to bring up a list of the sites visited.

Forward button : This button will only be available once you have used the Back button at least once. It helps to take you to the page you just left when you clicked on the Back button.

Forward history : That brings up a list of the sites you have visited and then used the Back button to return.

Stop : Helps to stop the current download.

Refresh : Gives the most recent version of the page that we are on.

Home : Helps you to instantly get back home page (first page).

Search : Helps to retrieve the specified files using web search engine.

Favourites : Helps to open up the most frequently visited sites.

History : Helps you to see where you have been on the Internet.

5.2 SSL

The Secure Sockets Layer (SSL) is a protocol, uses Hypertext Transfer Protocol (HTTP) and Transport Control Protocol (TCP) for managing the security of a message transmission on the Internet. The "sockets" term refers to the sockets method of passing data back and forth between a client and a server program in a network or between program layers in the same computer. SSL uses the public-and-private key encryption system, which also includes the use of a digital certificate.

5.3 Various Web browsers available in the market:

a.	Google Chrome		b.	Mozilla Firefox	
c.	Safari		d.	Opera	
e.	Maxthon		f.	Internet Explorer	

g.	Netscape Navigator		h.	Avant Browser	
i.	YouTube Browser		j.	UC Browser	

6. BLOGS

6.1 Definition

A blog, short for 'web log' is a modern online writer's column. A blog is a web site like any other, but it is intended to offer personal opinions of people on their hobbies, interests, commentaries, photo blogs, etc.

Initially, blogs started out as online personal diaries, but in a technology-driven world, now they have also been taken up by businesses as an informal method of communicating with customers and clients.

Blogs can also be used for commercial purposes, too. Absolutely anyone can start a blog, but some people make reasonable incomes by selling advertising on their blog pages. Social network companies also realise how popular blogs are and many offer free blog space (e.g. **MySpace**).

Another feature of popularising a blog is the ability of visitors to add comments to the stories.

There are two ways of starting your own blog:

1. **Free blog hosting:** You do not need a server to start your own blog. There are plenty of free, open source blogging software you can install. For example WordPress and Moveable Type.
2. **Paid blogging:** Another way is when a company provides you a limited amount of space or a column on their website and the blogger has to pay for the same till the time he is using the available space.

6.2 Types of blogs

There are millions of blogs on the Web. But they are categorised into these types:

- Personal blogs

- News and views
- Company blogs
- Micro blogs

Personal blog

By far the most popular among all types of blogs is the personal blog, after all, blogging started off as a way of giving words to your thoughts. A typical blogger may be keen on posting stories about his interests.

News and views

These days, we find a number of news and television companies having professional journalists who post stories and views about the latest events. Visitors can comment their opinions as well. BBC is a popular example of the same.

Company blogs

Many companies run blogs to let their customers and clients know about the new products coming up or progress being made on some project.

Micro-blogs

This is a new type of blog where you post very short comments that others can follow and a powerful way for professionals to keep in touch with each other. Twitter is the best example.

6.3 Bloggers

Those days are now a thing of the past when journalists had only pens and papers or specific websites to write on because now they have websites and blogs on which they can express their views. A person who writes a **blog** is simply known as a blogger.

Associating this to social networking websites allows you to get viewers and readers who would then promote these amongst other people.

A good blogger should keep a few things in mind:

- Write unique but meaningful content. Try keeping the language simple and concise and incorporate some surprise elements. Find a topic that would intrigue your readers or an issue that people are looking out for more information. Remember to BE ORIGINAL. This will increase the credibility.

- Don't make it boring. Avoid clichés. Keep your writing informal, if possible funny or quirky and create a perfect balance between keeping the mood light and professional enough to suggest you are serious about your matter.
- Knowing your topic is good but not enough. You need to express it in a right way and communicate properly to your readers. Write crisp, short, active sentences with powerful verbs. Ensure that your content is error-free, proofread and edit your work meticulously and only when you are satisfied with it, hit the publish button.
- The title is the crux of any content. Your best quality content will hold no meaning if the title itself is not catchy. The first thing readers notice is the headline. You have to tempt them to open the link and leave satisfied but still wanting to know more about other blogs. This eventually increases traffic to your site!

Advantages of Blogging:

1. We can work on blog anytime and anywhere in the world, all you need is your laptop or a desktop computer and wireless internet services.
2. You are your own employee. When blogging, you can blog any time you want to whenever you think of something that is relevant to your blog.
3. As a blogger, you are flexible and can choose to write about anything in the world as long as it benefits you and befits your opinions and thought process.
4. Very quick and easy to set up, do not need much technical knowledge.
5. Easy and quick to update or add new posts. People can leave comments on your blog and you can comment on other persons' blogs, too.

Disadvantages of Blogging:

1. You need to be patient because you don't start earning in a single day. Readership takes time to develop within people.
2. Blogging is time-consuming. You need to be disciplined. Finding time to write regular updates can become a chore.
3. You need to be very active as a blogger so that people can read your blog posts. If, for example, you fall ill, you won't be able to blog and this would result in losing followers.
4. As you know the public to everyone, you need to put a check on your language.
5. There are many very dull blogs around. You may have to look at many before you find some worth reading.

7. URL

7.1 Definition

URL's, or 'uniform resource locators', are the web browser addresses of internet pages and files. It is the way to locate a file or document on the Internet. The URL specifies the address of a file and every file on the Internet has a unique address. It works with IP addresses to give a name, location to web pages. Web software, such as your browser, use the URL to retrieve a file from the computer on which it resides.

Format of a URL:

Protocol://site address/path/filename

Every URL has three parts to address a page or file:

1. **Protocol** which ends with a '//:'
2. **Host computer** which ends with web extensions such as .com,.org etc.
3. **Filename or page name** which displays the related information.

Example:

http://www.banks.com/login/password.htm

The above URL consist of:

- Protocol : **http**
- Host computer name : **www**
- Domain name : **banks**
- Domain type : **com**
- Path : **/login**
- File name : **password.html**

7.2 Elements of Absolute and relative URL:

An **Absolute URL** is independent or free from any relationship. It specifies the exact location of a file or directory on the internet. When you use an absolute URL, you target a particular file. Thus, each absolute URL is unique, which means that if two URLs are identical, they point to the same file. These URLs are always preferred as they help in web site maintenance. Moreover, it is easy to transfer a web site from one domain name to another, you need not to update each link on each page.

For example:

http://www.developers.com/images/hardware.gif

In above URL specifies an image file hardware.gif located in the images directory, under domain name www.developers.com.

If we want to include the image file hardware.gif stored in the images directory of www.developers.com domain on this page.

Using an Absolute URL in an <img> tag is as follows:

A **Relative URL** is targeted to a file or directory in relation to the present file or directory. If the web site has several sections and the files and web pages for each section have been segregated into different directories. This helps in keeping things organized and uncluttered on the web site. The relative URLs are shorter than absolute URLs and hence the file size of the web page would reduce, if you use the former.

For example:

If we want to include the image file hardware.gif stored in the images directory of www.developers.com domain on this page using an absolute URL.

The <img> tag for this image display will be as follows:

Using a Relative URL in an <IMG> tag

7.3 Protocols

Definition

When we have to communicate with anyone, then we need to follow the same language, so that communication can be done in an effective manner. In the same way ,whenever there is need to exchange data or information among different or same type of networks on internet, they need to follow same set of rules.

The Internet is based on many layers of information, where each layer is dedicated to a different kind of documentation. These different layers are called **Protocols**. A protocol is a set of rules that governs the communication between computers on a network. They exist at several levels in a telecommunication connection.

The most popular protocols used on internet are the World Wide Web, FTP, Telnet, Gopherspace, instant messaging, and email.

7.4 Types of Protocols

TCP/IP

1. **TCP/IP:** TCP/IP (Transmission Control Protocol/Internet Protocol) is the basic point-to-point meaning each communication is from one point (or host computer) in the network to another point or host computer communication protocol on the Internet. It is used as a communication protocol in all types of networks. When you are connected to the Internet, your computer provides you a copy of the TCP/IP program when you need to send messages to or get information from the other computer.

   TCP/IP is a two layer protocol. The top layer, TCP(Transmission Control Protocol) manages the assembling of a message or file divided into smaller packets that are transmitted over the Internet and received by a TCP that reassembles the packets into the original message on the destination computer. The lower layer, Internet Protocol, handles the address part of each packet so that it gets to the right destination. Each gateway computer on the network checks for the address to forward the message. Some packets from the same message are routed differently than others, but they are reassembled at the destination.

2. **HTTP** stands for **HyperText Transfer Protocol**, is a set of standards that allows users of the World Wide Web to exchange information found on web pages on internet. HTTP defines how messages are formatted and transmitted, and what actions Web servers and browsers should take in response to various commands. Today's modern browsers no longer require HTTP in front of the URL since it is the default method of communication. But, it is still used in browsers because of the need to access other protocols such as FTP through the browser. The HTTP provides a standard for Web browsers and servers to communicate.

3. **File Transfer Protocol (FTP)** is a standard protocol used on network to transfer the files from one host computer to another host computer using a TCP based network, such as the Internet.

   FTP uses separate control and data connections between the client and the server. To use FTP server, users need to authenticate themselves using a sign-in protocol, using a username and password, but can connect anonymously if the server is configured to allow it. For secured transmission the data encrypts (hides) the username and password, and even encrypts the content, using SSL.

   To transfer files with FTP, use a program often called the client. An FTP client program initiates a connection to a remote computer running FTP server software. After the

connection is established, the client can choose to send and/or receive files. To connect to an FTP server, a client requires a username and password as set on the server. Many FTP servers use a username as "anonymous". Using FTP, you can also update (delete, rename, move, and copy) files at a server. You need to logon to an FTP server. However, publicly available files are easily accessed using **anonymous FTP**.

FTP using TCP/IP, works in the same way as HTTP used for transferring Web pages from a server to a user's browser. FTP sites are heavily used and require several attempts before connecting.

To use your web browser to connect to an FTP site, where you normally enter a URL as follows:

ftp://username@ftp.site name/

Summary

- The World Wide Web (WWW) is an internet based service, which uses common set of rules known as Protocols, to distribute documents across the Internet in a standard way.
- The Internet is a massive network of networks. It connects millions of computers together globally, forming a network in which any computer can communicate with any other computer as long as they are both connected to the Internet.
- Search engines are the programs which are needed to extract the information from the internet.
- A search engine works in the following order: Web crawling, Indexing, Searching
- A web server commonly known as HTTP server or application server is a program that serves content using the HTTP protocol.
- A Web page can contain an article, or a single paragraph, photographs, and it is usually a combination of text and graphics.
- A browser is a software that lets you view web pages, graphics and the online content.
- The Secure Sockets Layer (SSL) is a protocol, uses Hypertext Transfer Protocol (HTTP) and Transport Control Protocol (TCP) for managing the security of a message transmission on the Internet.
- A blog is a web site like any other, but it is intended to offer personal opinions of people on their hobbies, interests, commentaries, photo blogs, etc.
- URL's, or 'uniform resource locators', are the web browser addresses of internet pages and files. It is the way to locate a file or document on the Internet.

There are two types of URL: Absolute and Relative.

A protocol is a set of rules that governs the communication between computers on a network.

EXERCISE

A. Multiple Choice Questions:

1. ARPANET stands for-
   (a) Advanced Real Projects Air Network
   (b) Advanced Research Preparation Agency Network
   (c) Advanced Recruitment Process Agency Network
   (d) Advanced Research Projects Agency Network

2. In 1990s, the internetworking of which three networks resulted into Internet?
   (a) WWW, GPS and other private networks
   (b) ARPANET, NSFnet and other private networks
   (c) ARPANET, NSFnet and other public networks
   (d) ARPANET, GPS and NSFnet

3. Web search engines works with the help of two programs. Which are they?
   (a) Web crawler and Cascading Style Sheet
   (b) Spider and Indexer
   (c) Web server and web crawler
   (d) None of the above

4. Web Site is a collection of _____.
   (a) Audio and video files
   (b) Pictures
   (c) Web pages
   (d) All of the above

5. AOL, iGoogle, Yahoo are examples of _____.
   (a) Web Site
   (b) Web Page
   (c) Web Portal
   (d) None of the above

6. _____is distributed computing over a network, and involve a large number of computers connected via real-time communication network such as the Internet.
   (a) Cloud Computing
   (b) Thin Client Computing
   (c) Fat Client Computing
   (d) Dumb terminal Computing

7. A _____ is a web site like any other, but it is intended to offer personal opinions of people on their hobbies, interests, commentaries, photo, etc.
   (a) Protocol
   (b) Blog
   (c) Webpage
   (d) Journals

8. _____ protocol defines how messages are formatted and transmitted, and what actions Web servers and browsers should take in response to various commands.
   (a) FTP (b) TCP/IP
   (c) HTTP (d) SMTP

9. URLs are of two types:
   (a) Absolute & Relative (b) Static & Dynamic
   (c) Absolute & Dynamic (d) None of the above

10. DNS is an acronym for _____.
   (a) Domain Name Security (b) Domain Number System
   (c) Document Name System (d) Domain Name System

B. Answer the following questions:

1. Define the following terms:
   (a) URL (e) Protocol
   (b) FTP (f) Blog
   (c) Blogger (g) TCP/IP
   (d) ARPANET (h) HTTP

2. Define WWW. How is it different from the Internet?

3. Briefly explain the various types of servers.

4. Differentiate between static webpage and a dynamic webpage.

5. Simran has a hobby of writing articles and short write-ups. She wants to share her views with the world. Suggest what she can do to make her views public and share her thoughts with everyone.

6. What is a Search Engine? How does it work?

7. What is a Web Server? What are the various services provided by web servers, these days?

8. What is a Web Page? How does it work and how is it different from a website?

9. What is meant by Cloud Computing?

10. What is a Web Site? How does it differ from a Web Portal?

11. What are the various steps involved while creating a Web Site? Explain.
    Discuss the various types of blogs.

12. Name some softwares used to create a Website.

13. What do you mean by a Web Browser?

14. What is meant by SSL?

15. Discuss the various types of blogs.

16. People nowadays are pursuing blogging as their career. But, still there are many who refuse to go for the same. Discuss your views on the topic.

17. Briefly explain the elements of a website.

C. Lab Session

Q.1. List the URLs of all the commercial and non-commercial websites and find out their domain names, servers and protocols.

Q.2. Name all the websites related to e-commerce.

Q.3. Create your e-group on a social networking site and share your opinions and views on environment.

Q.4. Name all the personal types of blogging sites.

Q.5. List all the popular search engines in the market.

Q.6. Write the names of all the newsgroups that you can join on internet.

Q.7. Make a list of IP addresses of a few of your favourite sites using any search engine of your choice.

Q.8. Make a collage depicting all the logos of web browsers and list their comparative features.

Q.9. Identify the category of these sites and complete the table.

Website	Category
www.olx.in	
www.facebook.com	
www.icicibank.com	
www.irctc.co.in	
www.merriam-webster.com	

Chapter 2
Web Services



Learning Objectives

By the end of this chapter, learner will be able to:

- List various web services.
- Define email.
- Understanding of protocol used in email services
- Define chatting, video conferencing.
- Understanding of E learning, E shopping
- Define social networking.

INTRODUCTION

Everyone is using internet irrespective of their background & interest. The types of services available on net are as diverse as the interest of the people .Web Services mean the services provided by World Wide Web. The World Wide Web provides services like chatting, emailing, video conferencing, e-learning, e-shopping, e-reservation, e-groups and social networking. These services may mean different things to different people but in simple words, they are the ways to communicate and here the communication takes place between two electronic devices.

When two persons are talking to each other, we say they are chatting. Likewise when two computers (or two electronic devices) exchange data and information, we say two computers are e-chatting. They communicate with each other with the help of technology and programming standards used on Internet.

Let us discuss the services provided by World Wide Web in detail in the following sections.

1. ELECTRONIC MAIL OR E MAIL

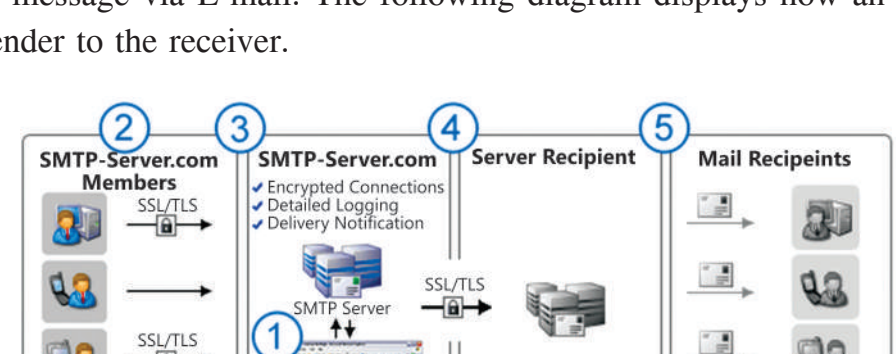


E-mail or Email is simply the short form of "electronic mail". It is a system of receiving, sending, and storing electronic messages. An electronic message is text or a file prepared using software in computer and that travels through telephone lines from one computer to another. E-mail has

become a popular method of communication. Now, an e-mail is preferred for personal or business communication as compared to letter sent by traditional post. Electronic mail has gained universal popularity because a person from any age group and from any background can use it and the delivery of the message is instant. The speed is much higher than the speed of the traditional postal or the courier service.

1.1 How is E-mail service used?

Messages sent by electronic mail normally reach a recipient's account within seconds. The message can include text, images and numerous types of formatted documents. These days, it is no longer necessary to be sitting in front of a PC to send or receive an email. A variety of mobile devices, such as tablet computers and smart phones make it possible to send the message via E-mail. The following diagram displays how an e-mail moves from the sender to the receiver.



Schematic diagram How E mail is transferred

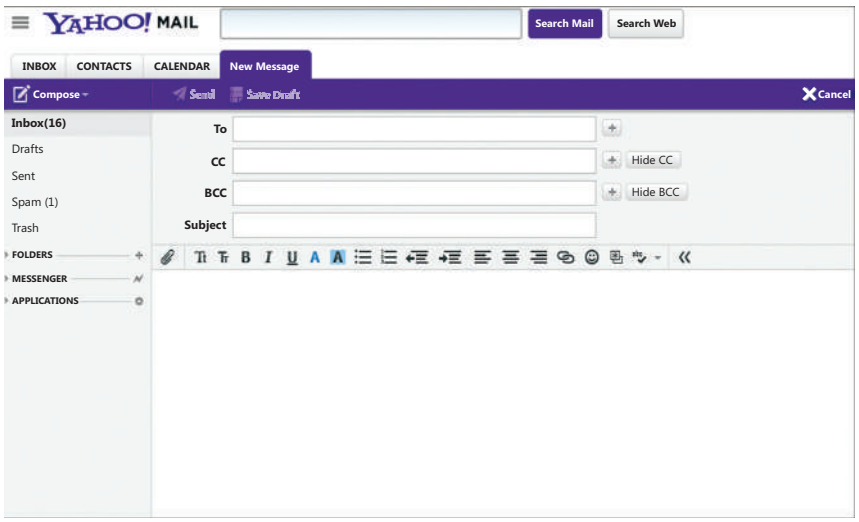
1.2 Protocols used in E-mail Service

Users receive and send messages using standardized protocols that make it possible for emails to travel between computers. A protocol is a set of rules that are needed for communication. Let us say, one computer is using 'a' software, the other computer is using 'b' software. Both of them want to communicate and exchange data. Computer 'a' will not be able to understand the message of computer 'b' and computer 'b' will not be able to understand the message of computer 'a'. here it becomes necessary that both the computers will agree upon standard set of rules to send or receive the message. Thus, standard or uniform protocols are needed so that different computers using different types of software can send or receive the information.

There are three types of protocols used by e-mail service. One is Simple message transfer protocol (SMTP), second is Post Office Protocol and third is IMAP (Internet Message

Access Protocol). The Simple message transfer protocol (SMTP) enables the actual sending of messages. The Post Office Protocol and IAMP allows the users to retrieve information instantly.

When we want to send a message using e-mail service, there are three important things that are to be kept in mind. The first is the body of the message. The second is the address of the person(s) to whom you want to send the message. The third is the fields associated to e-mail message. Let us discuss them in detail.



Message Body

The body of the message may consist of words, number, attachments, special characters or anything you want to insert in the letter.

E-mail Address

Let us look at the following example(s) to understand the e-mail address and its components.

Example:

editor@cbse.co.in

editor@cbse.com

An e-mail address consists of four parts:

1. The username
2. The symbol
3. The hostname
4. The top level domain

1 The username, here 'editor' which refers to the mailbox. The username is the name given by the user (the recipient) as per his/her choice, while preparing an e-mail address for him / her. While deciding a username, the recipient has to follow the naming conventions like use of underscore (_) or a dot (.) as a separator between two words, minimum or maximum number of character to be maintained etc.

2. The symbol, here '@'. This symbol is pronounced as 'at the rate' and this remains same in every email address.

3. The hostname, here 'cbse'. The hostname is also called the domain name. The domain name is the name of mail server whose representation appears in the client computer when he/she opens his/her inbox. This domain name is important to lead the message to the address of the mail server. The address is a unique IP address for easy identification on the Internet.

4. The top-level domain (TLD). The top-level domain may again get divided into two portions. Here "com" or "co" refers to commercial sites (the first portion) and "in" refers to India (the second portion). Thus, "co.in" together refers to commercial sites registered and residing in India.

1.3 Field Associated with an E mail Message:

An email client can be Outlook Express, Hotmail or Ymail. The email client may typically consist of four important fields. They are To:; Cc:; Bcc: and Subject:.

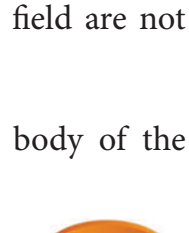
To: field is used to write the email address of the person to whom the message is to be sent.

Cc: field is optional and is used to send a message to multiple additional addresses.

Bcc: field is also optional and is used to send a message to multiple additional addresses. The difference between Cc and Bcc: field is decided in terms of visibility. The address in Bcc: field is termed as blind carbon copy, the addresses mentioned in this field are not visible to the recipients of the "To:" and the "Cc:" fields.

Subject: field is used to mention short title for what is included in the body of the message.

2. CHAT



The word chat as it literally means in English is communication between two or more people. The electronic chat is the communication between two or more individuals using their computers. Chat is only feasible when

both the users are on Internet at the same time. The communication occurs through typed text messages. Usually, this "talking" is the exchange of typed-in messages requiring one site as the repository for the messages (or "chat site") and a group of users who take part from anywhere on the Internet.

The group chats can be ongoing or scheduled for a particular time and duration. Most chats are focused on a particular topic of interest and some involve guest experts or famous people who "talk" to anyone joining the chat. Alternatively two users can chat when they are using the Internet and the platform at the same time.

Several browser interfaces provide the chat facility these days such as Instant messaging, Windows, Skype and ICQ. With the invent of 3G technology not only text data but video data can also be streamlined at the same time

3. VIDEO CONFERENCING

The video conferencing is a conference between two or more people sitting at various remote locations around the world. They can talk to each other when they are connected to each other using Internet. Thus, they are able to transmit both the video and audio data.

In video conferencing, several computer networks relay the information through the Internet. Each of the end user has a camera known as Webcam as well microphone to capture the video data and the voice data in real time and this is transmitted over Internet. The participants can view each other over their monitors as well as hear the voice data over speakers of their laptop or desktop computers. These days equipment such as smart phones and tablets has the capability of capturing the video data as well voice data. Therefore, it is possible to conduct video conferencing from any part of the world not necessarily connected to Internet through wires.



Multipoint videoconferencing allows three or more participants to sit in virtual conference room and communicate, as though they are all sitting together. With the rapidly changing cost of the hardware and accessibility of Internet across the world, video conferencing is changing the way people conduct meetings. The business class all around the world consider video conferencing as a rapid tool to reduce the need for personal meetings and hence the need for all participants to get together at one location. The high speed of Internet connectivity not only allows the video and audio data but participants can open, review, share and discuss the documents.

On the television, we see a number of times that the program host is conducting the interview among several participants sitting in different cities or countries. This is done with the technology used in video conferencing. The participants are not only able to hear each other but can see and talk to each other live. The entire proceedings of the interview such as the data transmission between or among participants across the world can be seen clearly by the viewers of the television.

Advantages of Video Conferencing

1. **Reduced traveling cost:** In the global world where businesses are being conducted across continents, the travelling cost and the time that is wasted during travel is reduced to a greater extent. The video conferencing lowers the distance by showing the receiver on the monitor and it takes least amount of time to conduct talks between the two users.
2. **Increased productivity:** The people meet in the virtual world where the discussions takes place instantly without meeting each other and the decisions about a problem are thus made faster. This leads to increased productivity.
3. **Going Green:** Since conferencing between people is possible even without travelling from one place to another through video conferencing, a lot of petrol or fuel is saved. One can therefore say, that it is an eco-friendly initiative.

But there are some disadvantages of video conferencing as well:

1. Technical issues- Since the video conferencing depends heavily on the availability of a high speed internet connection, the technical issues of such types can delay the discussions among the participants sitting in different locations.
2. Lack of personal contact- All types of discussions cannot be handled through video conferencing. Discussion between an employer and prospective employee or the assessment of a candidate is possible most of the time through the personal interview i.e. face to face interaction. It is difficult to judge a person through the video or a virtual interview.

4. E-LEARNING



As computer and usage of Internet has made the life of the business people easy, companies from across the world have started to consider the fact that information and knowledge can be imparted to people using technology. E-Learning is one such method in this direction.

The E-Learning is a method of providing guidance and/or delivering information to students of university or the employees of companies. Several universities and companies design the courses that can be reviewed using laptop, desktops or other smart devices. These programs are developed in such a way that the individuals don't need to come to a classroom but can review all the data from any place convenient to them. It can be their home or their office.

Such courses are designed in such a way that people can progress slowly or at a pace, they can manage. These courses help an individual to assess their knowledge online. This is done using the built in evaluation tools like quizzes or multiple choice questions.

These courses are sometimes, stored in a directory or a server, from where the students can access and copy them on the compact disc or other data storage device. In either case, the program is developed in such a way that the student needs minimal interaction with a human tutor to understand the information being shared.

The biggest advantage of E-learning is that it helps to provide information to a large group of individuals who cannot attend an institution. It also reduces the need for one to go to a specific place to learn or to share information. The E- Learning provides an opportunity to the student to complete the course at their speed. Several product development companies develop programs for E-learning the business in schools and universities. Today even a young child from an elementary school knows how to use a smart device, a device that helps in interactive learning. The universities from across the globe keep offering the on-line courses. This is possible through e-learning. The e-learning may even provide the students a the platform to share their thoughts and have live or online discussions for clarifications.

The following are the advantages of online or computer-based learning:

1. Class work can be scheduled around work and family
2. Reduces travel time and travel costs for off-campus students
3. Students may have the option to select learning materials that meets their level of knowledge and interest

4. Students can study anywhere; they only need access to a computer and Internet connection
5. Self-paced learning modules allow students to work at their own speed
6. Flexibility to join discussions in the bulletin board threaded discussion areas at any hour, or visit with classmates and instructors remotely in chat rooms
7. E-Learning can accommodate different learning styles and facilitate learning through a variety of activities
8. Develops knowledge of the Internet and computer skills that will help learners in their career

Disadvantages of online or computer-based learning

1. Learners with low motivation or bad study habits may fall behind
2. Without the routine structures of a traditional class, students may get lost or confused about course activities and deadlines
3. Students may feel isolated from the instructor and classmates
4. Instructor may not always be available when students are studying or need help
5. Slow Internet connections or old computers may make accessing course materials frustrating
6. Managing computer files and online learning software can sometimes seem complex for students with beginner level computer skills
7. Lab work is difficult to simulate in a virtual classroom

5. E-RESERVATION

E-Reservation System is an online reservation system that enables hotels, resorts, property owners, operators, theater operators and transport companies to maximize revenues without having to put human booking agents.

This system works with the Web and the Internet helps provide an access to a user/ customer to book a ticket, room etc. without ever having to go to the booking office. Since such systems are internally integrated with the database of the companies, the booking system helps to monitor access to the client as long as there is availability of the seats/ rooms etc. The diagram below shows the process of e-reservation in case of a hotel room booking.

Businesses benefit from E-reservation as:

1. Increases direct sales as immediate confirmation is provided
2. Reduces administrative costs as less human agents are required
3. Helps manage inventory better as more visibility to the customer
4. Provides global access to the customers without the capital expenditure to set up local offices

6. E-SHOPPING



On-line shopping is the purchase of products and services over the Internet using a desktop or laptop of other smart device. With the access of Internet everywhere On-line shopping is gaining popularity as it is convenient to fast paced life style of the people these days. More and more business firms are offering these opportunities because it also helps them to reduce the infrastructure costs setting up stores, hiring sales employees and merchandising.

Products such as clothes, shoes, groceries, books and larger products as furniture and home décor are offered through online shopping.

Benefits of E-Shopping:

1. Reduces time for customers as they can do a search from the comfort of their home and compare prices
2. Reduces major infrastructure cost to the businesses
3. Helps move products faster as the products move from manufacturer to the customer skipping unnecessary storage.
4. Businesses benefit from immediate funds availability and mostly customers pay for the product through e-payment online.

Disadvantages of E shopping:

1. Customers are not able to touch and feel the products
2. Businesses have to manage the logistics of delivering products just-in-time
3. The access of this shopping depends entirely on availability of Internet. This limits a large population who does not know to use the technology i.e. the remote areas.
4. Businesses have to continually protect against fraud and returning of the products sold.

There are several e-shopping portals available worldwide. Some of them are local to a specific region or country. Some portals provide with a global access. The examples of such portals are e-bay, amazon etc. In India there are other established e-shopping portals such as Home Shop 18, Naaptol .com, Yebhi.com etc…

The most important interface component of E-Shopping portal are:

1. Customer website interface
2. Order management and inventory control.
3. Shipment Interface with various logistics organizations
4. Payment gateway for financial interface for payment processing
5. Customer service and support with live agents for complaints and help

E-Shopping has not only changed the way consumers are shopping for the products but has also changed how the product moves from manufacturers to the end user. In the typical store-shopping model, the product moved from manufacturer to wholesalers to several intermediaries and finally to stores where customer may buy it. This model had several layers of transportations built in leading to costs. In the e-shopping model, the E-Shopping portal manages just-in-time inventory where product is obtained from manufacturer after the customer orders it from the website. This product is then shipped directly from the warehouse of the shopping portal provider to customer. This eliminates the intermediary and hence saves the cost of middleman.

6. SOCIAL NETWORKING



Social Networking is a platform that helps people to connect with others and build a social relation. The last 15 years has seen a splurge of social networking sites where people can search / choose to make friends, post pictures and photos, comment on each other's activities. Social networking has opened the doors where people can connect and share their lives and the activities by them without being close geographically. People can connect from anywhere in the world with the internet connection. They can become the member of one or other available social networking site.

Social networking site allows a user to share ideas, activities, events, and interests among the people. The individuals can also have the control of the content they share and the person with whom they are or want to communicate with. An individual can share text information, photos, data files or even videos. Many people now a days use social networking sites to market their business and thus reach the potential customer. Using an account of these sites they can showcase their product and services that the people interested can follow and review.

7. E GROUPS

E groups are a list of emails, users that can share information among each other. A single administrator can maintain that group and hence provide the entire set of users to communicate between each other. You can think of the administrator as a person who is controlling the E Group. For example most of the companies these days have an E Group structure where all employees can send email to each other, share files and access folders on their servers or view each other's calendar. The important fact is that only the users within the group have the access and any user who is not in the group will not get the permission to access.

The administrator of the group has the control on what level of access can the different users have. Mostly all users can send an email to each other, but some users may have access to all the files that the organization stores while others only to a specific folder.

Summary

- Web Services mean the services provided by World Wide Web. The World Wide Web provides services like chatting, emailing, video conferencing, e-learning, e-shopping, e-reservation, e-groups and social networking.
- E-mail or Email is simply the short form of "electronic mail". It is a system of receiving, sending, and storing electronic messages.

- There are three types of protocols used by e-mail service. One is Simple message transfer protocol (SMTP), second is Post Office Protocol and third is IMAP (Internet Message Access Protocol).
- The word chat as it literally means in English is communication between two or more people. The electronic chat is the communication between two or more individuals using their computers
- In video conferencing, several computer networks relay the information through the Internet. Each of the end user has a camera known as Webcam as well microphone to capture the video data and the voice data in real time.
- The E-Learning is a method of providing guidance and/or delivering information to students of university or the employees of companies..
- E-Reservation System is an online reservation system that enables hotels, resorts, property owners, operators, theater operators and transport companies to maximize revenues without having to put human booking agents.
- On-line shopping is the purchase of products and services over the Internet using a desktop or laptop of other smart device.
- Social Networking is a platform that helps people to connect with others and build a social relation.
- Social networking site allows a user to share ideas, activities, events, and interests among the people.
- E groups are a list of emails, users that can share information among each other.

EXERCISE

A. Multiple Choice Questions:

1. In web services, the communication takes place between-
   (a) Two electronic devices. (b) Two human beings
   (c) Two spiders (d) None of the above
2. Now a days, an email can be sent via,
   (a) PC (b) Tablet
   (c) Smart phone (d) All of the above
3. An e-mail address consists of four parts:
   (a) The username (b) The symbol
   (c) The hostname (d) The top level domain

4. The following is not the name of e-shopping portal:
   (a) Amazon (b) e-bay
   (c) twitter (d) naaptol
5. The benefit of E-leaning is:
   (a) Class work can be scheduled around work and family
   (b) Reduces travel time and travel costs for off-campus students
   (c) Students can study anywhere they have access to a computer and Internet connection
   (d) All of the above

B. Fill in the blanks by using the words as under:

video	guidance	at the rate	Higher
World Wide Web	SMTP	e-mail	E groups
protocol	lower		

1. Web Services mean the services provided by _____.
2. _____ is simply the shortened form of “electronic mail”.
3. The speed of E-mail is much _____ than the speed of the emergent postal or the courier service.
4. A _____ is a set of rules that are needed for communication.
5. _____ enables the actual sending and receiving of messages.
6. The symbol, ‘@’ is pronounced as _____ and this remains same in every email address.
7. The participants can view each other over their monitors as well hear the voice data over speakers of their laptop or desktop computers.
8. _____ are a list of emails, users that can share information among each other.
9. E-Learning is a method of providing _____ and/or delivering information to students of university.
10. _____ conferencing is a conference between two or more people sitting at various locations around the world.

C. State True (T) or False (F)

1. Computers communicate with each other with the help of technology and programming standards used on Internet.
2. An e-mail is preferred for personal or business communication compared to letter sent by post.

3. Different protocols are needed so that different computers using different types of software can send or receive the information.
4. The body of the e-mail message may consist of words, number, attachments, special characters or anything you want to insert in the letter.
5. The domain name is the name of mail server whose representation appears in the client computer when he/she opens his/her inbox.
6. The address in Cc: field is not visible to the recipients of the "To:" and the "Bcc:" fields.
7. In an e-shopping there are a number of middlemen.
8. It is difficult to judge a person through the video or a virtual interview.

D. Multiple Choice Questions

Match the following

A	Video conferencing	1	On-line shopping is the purchase of products and services over the Internet using a desktop/laptop or other smart device.
B	E-Shopping	2	Each of the end user has a camera as well microphone to capture the video data and the voice data in real time and this is transmitted over Internet.
C	E-Mail	3	"Without ever having to go to the booking office"
D	E-Reservation	4	Self-paced learning modules allow students to work at their own speed
E	E-Learning	5	Messages normally reach a recipient's account within seconds.

E. Answer the following questions:

Q.1. What is the meaning of web services? Discuss the various web-services in brief.

Q.2. What are the benefits of E-mail services over the postal service?

Q.3. How can you use the E-leaning facility for the subjects that you study?

Q.4. Write short notes on:
(a) E-shopping
(b) E-groups

Q.5. Describe the structure of Email box.

Q.6. Name the sites used for E-shopping.

Q.7. What is the difference between the Chatting and Videoconferencing?

Q.8. How is E-learning beneficial for a learner?

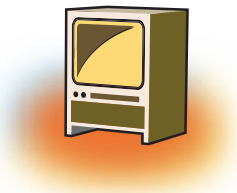
Q.9. Mention few advantages and disadvantages of Social Networking.

Q.10. What are the advantages and disadvantages of Video Conferencing?

Q.11. How is twitter different from the facebook?

F. Lab Session

1. Make a list of different email addresses that you or your friends use and identify different Host names.
2. Search Internet for different e-learning programs that are available. List down the benefits derived by you. Which e-learning program is used by your school and find out the information derived by them.
3. Identify the local TV programs that are using Video conferencing. Can you make a list of advantages while watching the program? Also list what were the disadvantages of video conferencing that you notice.
4. Make a reservation of a ticket online and make a list of all the steps needed.
5. List all social media sites you are using. Identify what benefits you feel by their use. Also identify the restrictions these websites put on you as a user.
6. Create an account in facebook. How can you use the gaming facility on the facebook.



Chapter 3
Introduction to GIMP

Learning Objectives

After learning this chapter, learner will be able to:

- State the purpose of Image Editing software.
- List the features of Gimp.
- Install Gimp Software from the provided link.
- Change the size of an image.
- Prepare the images for web.
- Crop the parts of the images.
- Understand the concept of Layers.

As you have worked with so many photo editing software such as Microsoft Paint, Drawing of Open Office.org etc. Now, in this chapter you will learn how to work with the images using GIMP software which is free and open source.

1. IMAGE EDITING TOOLS-INTRODUCTION

Image editing encompasses the processes of altering images, whether they are digital photographs, traditional analog photographs, or illustrations. Traditional analog image editing is known as photo retouching, using tools such as an airbrush to modify photographs, or editing illustrations with any traditional art medium.

There are two basic ways that images can be adjusted. Pixel editing works at the pixel level and requires altering the original image. Parametric Image Editing works by saving instruction sets that change the appearance of images without actually changing the original image data.

2. LIST OF COMMONLY USED IMAGE EDITING TOOLS

(a) **The GIMP:** GNU Image Manipulation Program is free and powerful open source image editing tool that provides retouching of photos, authoring of photos and composition of photos.

(b) **FastStone Image Viewer:** The FastStone Image Viewer is an interactive application that provides the image editing, image browsing and image converting. It supports

almost all major formats with some useful features including email facility, 150+ transitional effects, high-quality magnifier, scanning facility and image annotation.

(c) **Serif PhotoPlus X4:** The Serif PhotoPlus X4 offers a wide variety of features for image editing in a very user-friendly environment. This tool offers photos organizer, scrapbooking, greeting cards, and web galleries.

(d) **Photo Impression 6.5:** This tool provides the image-editing facility in a very simple way. It automatically organizes all of your photos and lets you to print them effectively.

(e) **PhotoStudio 6:** The PhotoStudio 6 allows you to add animated text and stamping facility on high-bit depth images. This tool also lets you to work with layers for image editing purpose. You can easily transform your raw photos into good ones by using this tool because of its ease and simple navigation.

(f) **Picasa:** Picasa is the kind of application that the built in editor is more than robust enough for most casual users and includes basic color correction, cropping, and a variety of special effects—the majority of which manage to avoid being cheesy. Picasa isn't a tool for deep and detailed editing but it is extremely easy to use for the kind of quick crop and quick editing, most digital camera owners need.

(g) **Paint.net:** The interface of Paint.net is easy to pick up and an unlimited undo function helps in correcting your learning, curve shapes, a snap making etc... Paint.net is favourite among Windows users looking for a powerful image editor.

(h) **Photo! Editor:** Photo! Editor is powerful multifunctional software offering a complete set of image editing tools. It contains everything a digital camera owner might need to correct or enhance their photos. You will enjoy the ultimate convenience and professional approach provided by each of the tools.

(i) **Inkscape:** The Inkscape is the open source image editing tool with standard features making it the best alternative of the Adobe Photoshop. It allows the vector based controls just like the Adobe Illustrator with powerful features. Most prominent features of Inkscape are node-editing, bitmap tracing, direct XML editing, and alpha blending. These features make the Inkscape a very powerful and free image editing tool.

(j) **Corel PaintShop Photo Pro X3:** The Corel Paint Shop Photo Pro allows you to adjust and clean-up your photos using the integrated photo organizer with advanced enhancement tools. With the smooth interface and fast speed Corel Paint Shop Photo Pro X3 makes it very easy for you to edit and organize your photos.

3. GIMP

3.1 Introduction

GNU Image Manipulation Program is free and powerful open source image editing tool that provides retouching of photos, authoring of photos and composition of photos. It is free and consists of many similar features provided by the Photoshop. It's available for free for download distribution software that allows you to create image composition and image authoring.



GIMP is a multi-platform photo manipulation tool. Most GNU/Linux distributions include GIMP as a standard application. The GIMP is also available for other operating systems such as Microsoft Windows™ or Apple's Mac OS X™ (Darwin).

The GIMP is a Free Software application covered by the General Public License [GPL]. The GPL provides users with the freedom to access and alter the source code.

3.2 Features of GIMP are:

- It can be used as a simple paint program
- An expert quality photo retouching program.
- An online batch processing system.
- A mass production image renderer.
- The advanced scripting interface allows everything from the simplest task to the most complex image manipulation procedures to be easily scripted.
- It can convert and save files to many file formats such as gif, jpef,tiff.etc

- It can load and save animations in a convenient frame as layer format.
- Virtually unlimited images can be opened at one time.
- GIMP works with numerous operating systems including Linux, Mac OS and Microsoft Windows.

Note

It is also available as a part of Ubuntu no root package from the Google Play store on Android.

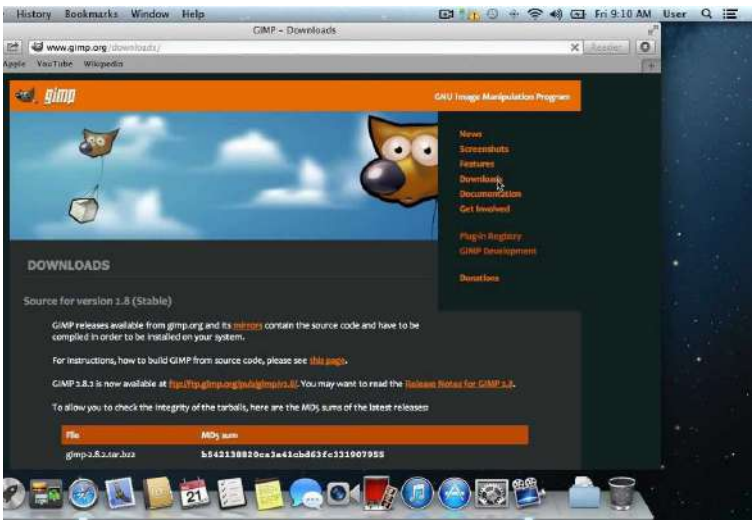
3.3 How to download GIMP from net

Steps to download GIMP:

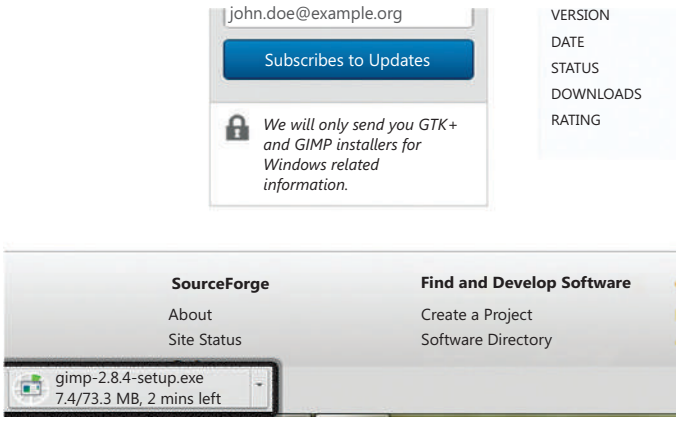
- Go to www.gimp.org
- Then click on Download button



- Click “Download Gimp”



- The Download will start



3.4 File Formats Supported in GIMP

Formats	Expansions
TIFF	Tagged Image File format
XWD	X Window System
JPEG	Joint Photographic Experts Group
XPM	X Pixmap
GIF	Graphics Interchange Format
PNG	Portable Network Graphics
PSD	Photoshop Document
PPM	Portable PixMap
BMP	Bitmap
PCS	Personal Computer Exchange

3.5 GIMP Compatible Platforms:

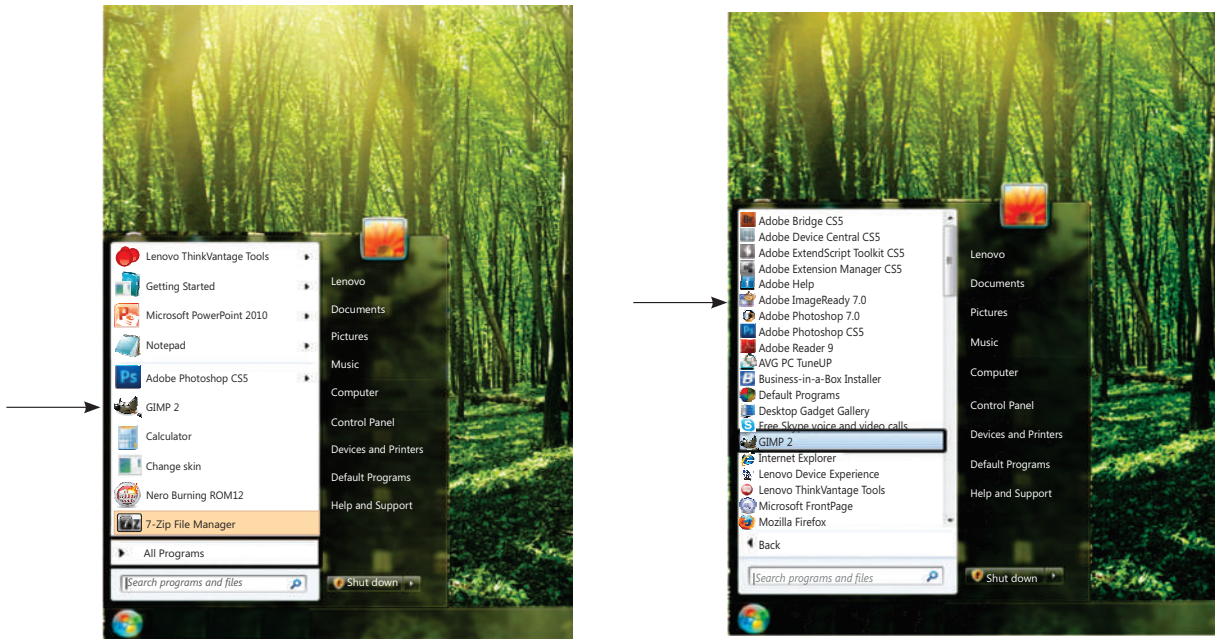
- GNU/Linux (i386, PPC)
- Microsoft Windows (XP, Vista, Windows 7)
- Mac OS X
- Sun OpenSolaris
- FreeBSD

4. STARTING GIMP

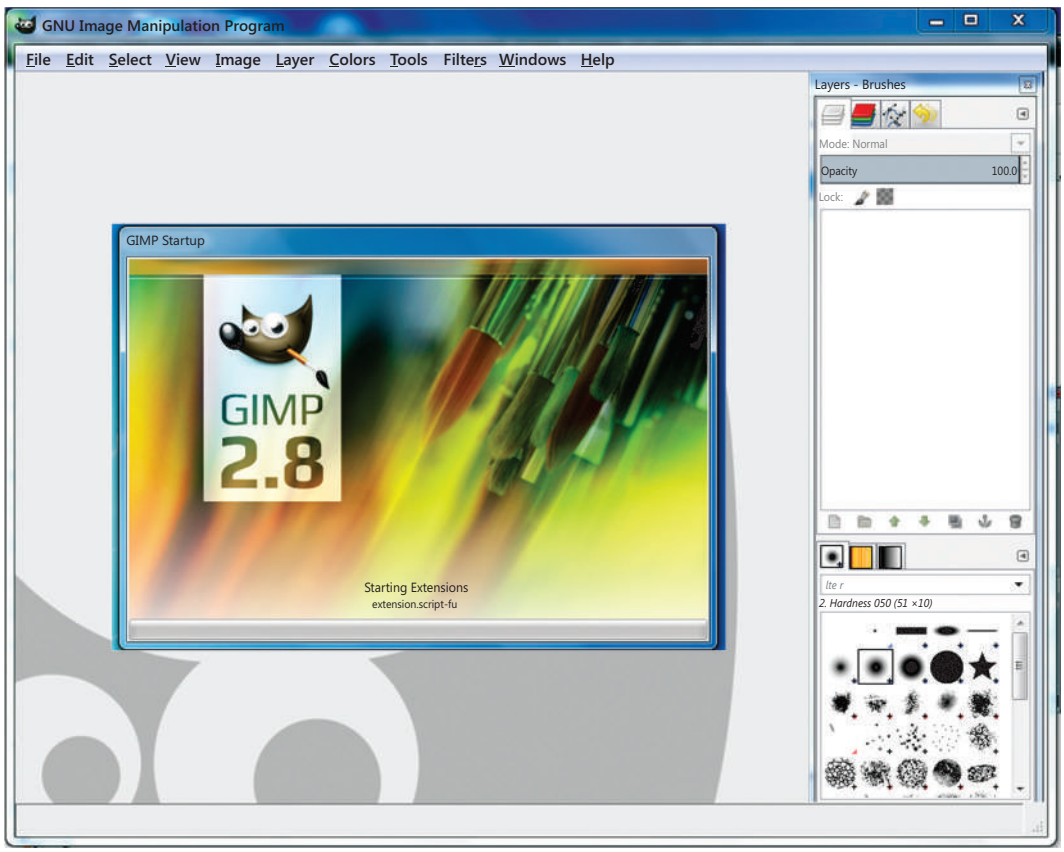
4.1. Open Gimp Software

Tip: GIMP was originally releasedas the general Image Manipulation Program, Spencer Kimball and Peter Mattis. Development of GIMP began in 1995 as project at the 'University Of California, Berkeley.

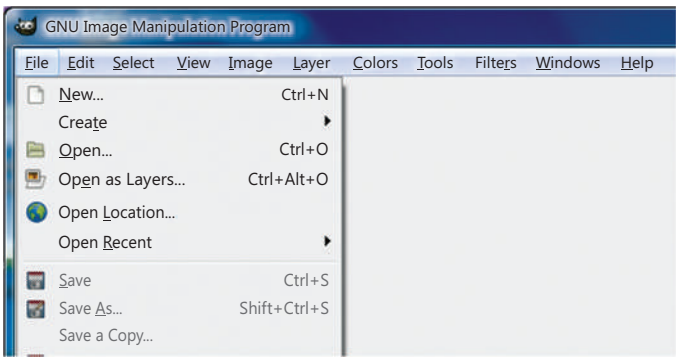
Step 1: Select Start → All Programs → GIMP 2



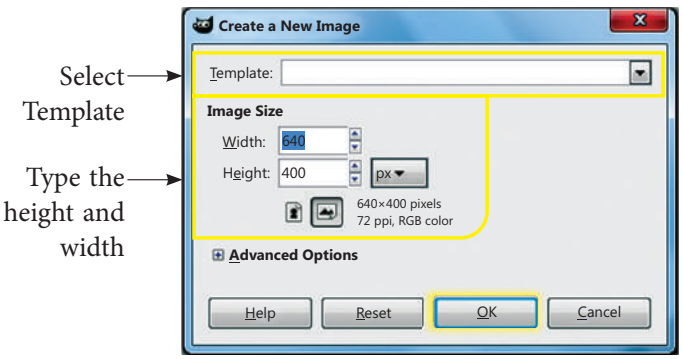
Step 2: The GIMP 2 window appears.

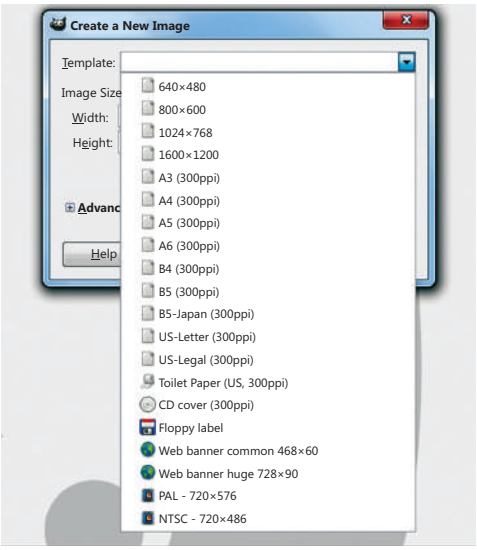


4.2 To create a New File



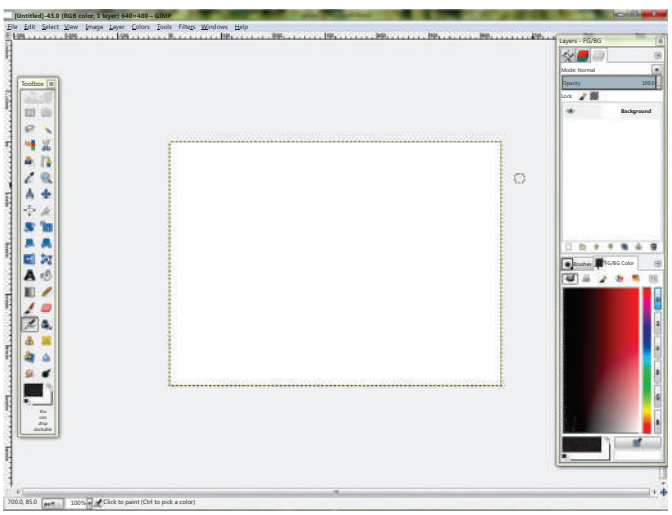
1. Click on File Menu
2. Select New option
3. Type the height or width /Choose a template
4. A dialog box appears; using this you can select the template and specify the size by setting values for both height and width.





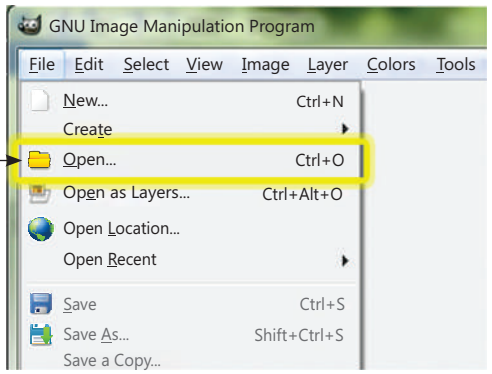
5. Press OK.

   A new blank image file is created. Now, you can use the tools and create your own drawings.



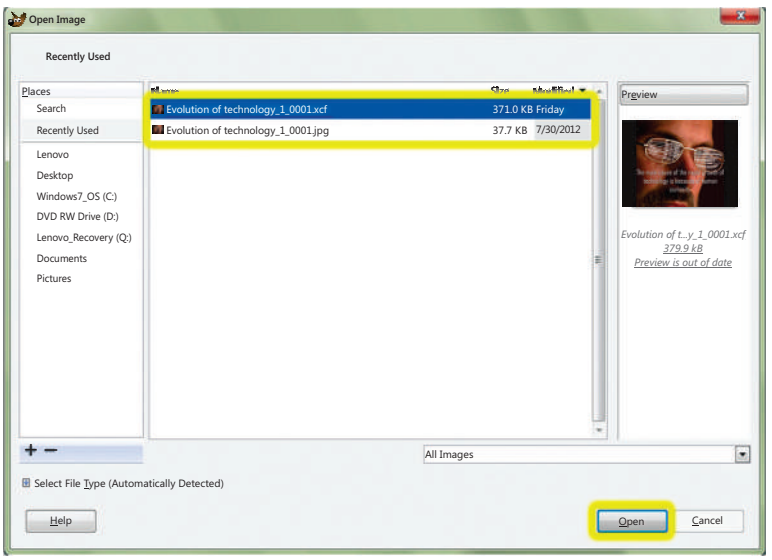
4.3 Opening an existing file

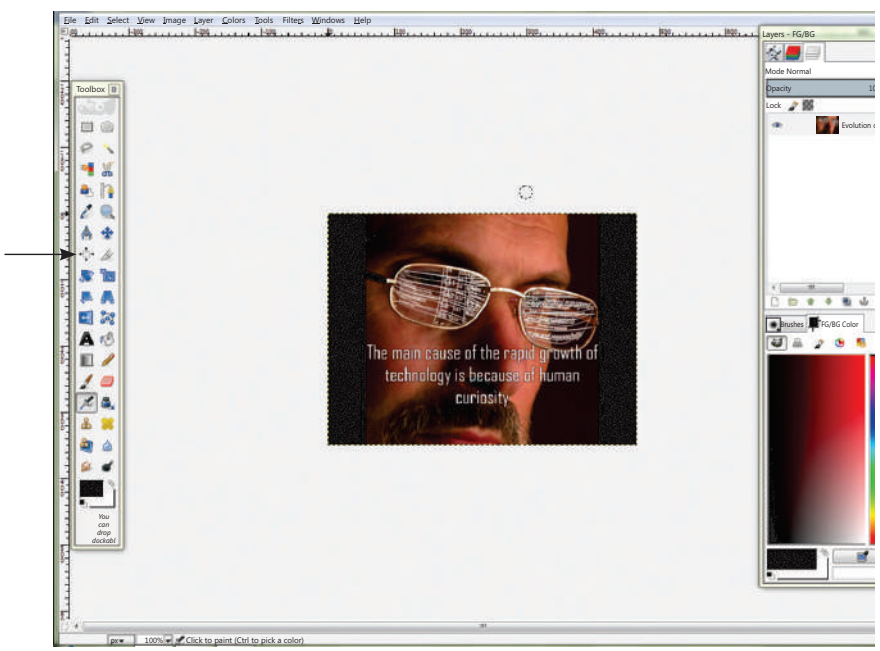
You can open an existing GIMP file or any other saved image of GIMP.



To open an existing file, follow the given steps.

1. Click on file Menu
2. Select Open option
3. Select the file name and click on Open button



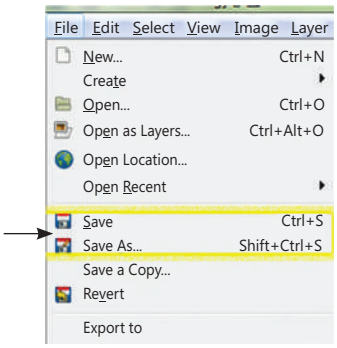


Selected file will be opened.

4.4 Saving a File

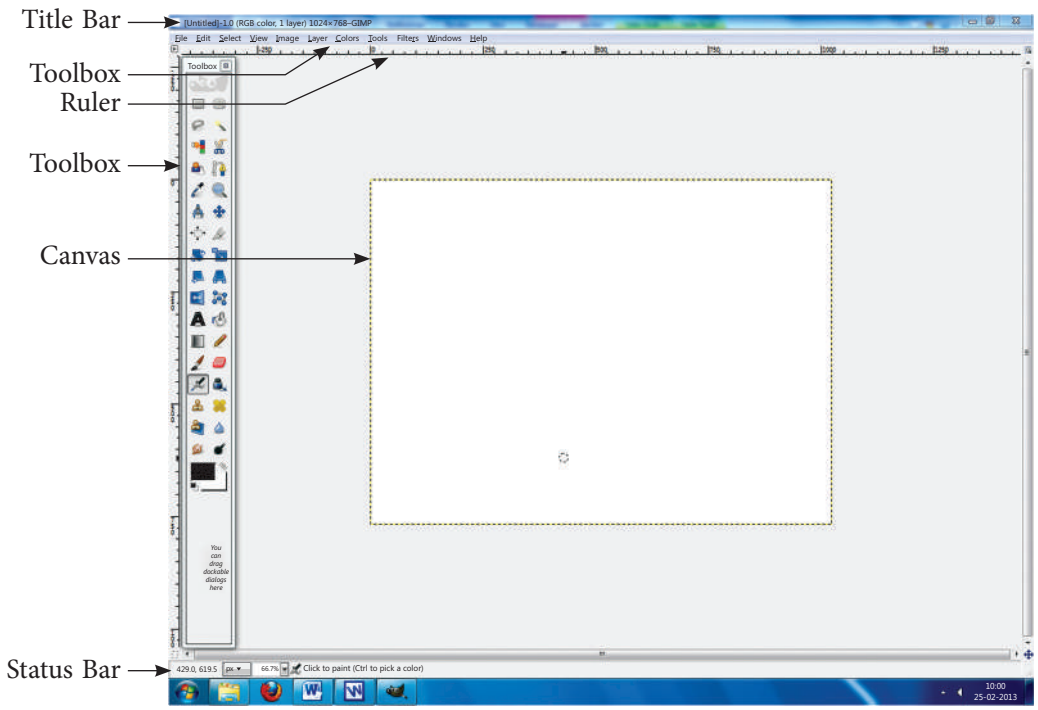
To save your file, follow the given steps:

1. FILE → SAVE/SAVE AS…
2. The Save Image dialog box appears



Give a name to the file, select the format of the image and click on save button.

5. UNDERSTANDING GIMP WINDOW



The main components of the GIMP Window are as follows:

Title bar — It is also known as Emphasis Bar. Title bar is placed at the top of the image. It shows the name of the image and some basic information about it.

Menu bar — The Menu Bar is placed below the title bar. This menu gives you access to nearly every operation you can perform on an image.

Toolbox — The GIMP provides a toolbox in order to quickly perform basic tasks such as making selections or drawing paths.

Ruler — In the default layout, rulers are shown above and to the left of the image, indicating coordinates within the image. By default, pixels are used, but

you can change to other units. One of the most important uses of rulers is to create guides. If you click on a ruler the guidelines will be created, which helps you to position things accurately.

Status bar The Status Bar is placed at the `bottom of the image. Most of the time, by default, it shows which part of the image is currently active, and the amount of system memory that the image is consuming. The status area displays, what operation is being performed, and its state of progress.

Canvas The most important part of the image window is of course the image display or canvas. It occupies the central area of the window surrounded by a yellow dotted line showing the image boundary against a neutral grey background. You can change the zoom level of the image display in a variety of ways, including the Zoom setting described below.

5.2 Tool box

The GIMP has a diverse assortment of tools that lets you perform a large variety of tasks.

Various Tool used in gimp are as follows:-

5.2.1 Rectangle Select Tool  [R]

The Rectangle Selection tool is designed to select rectangular regions of the active layer. It is the most basic of the selection tools, and very commonly used.

5.2.2 Oval Selection Tool  [E]

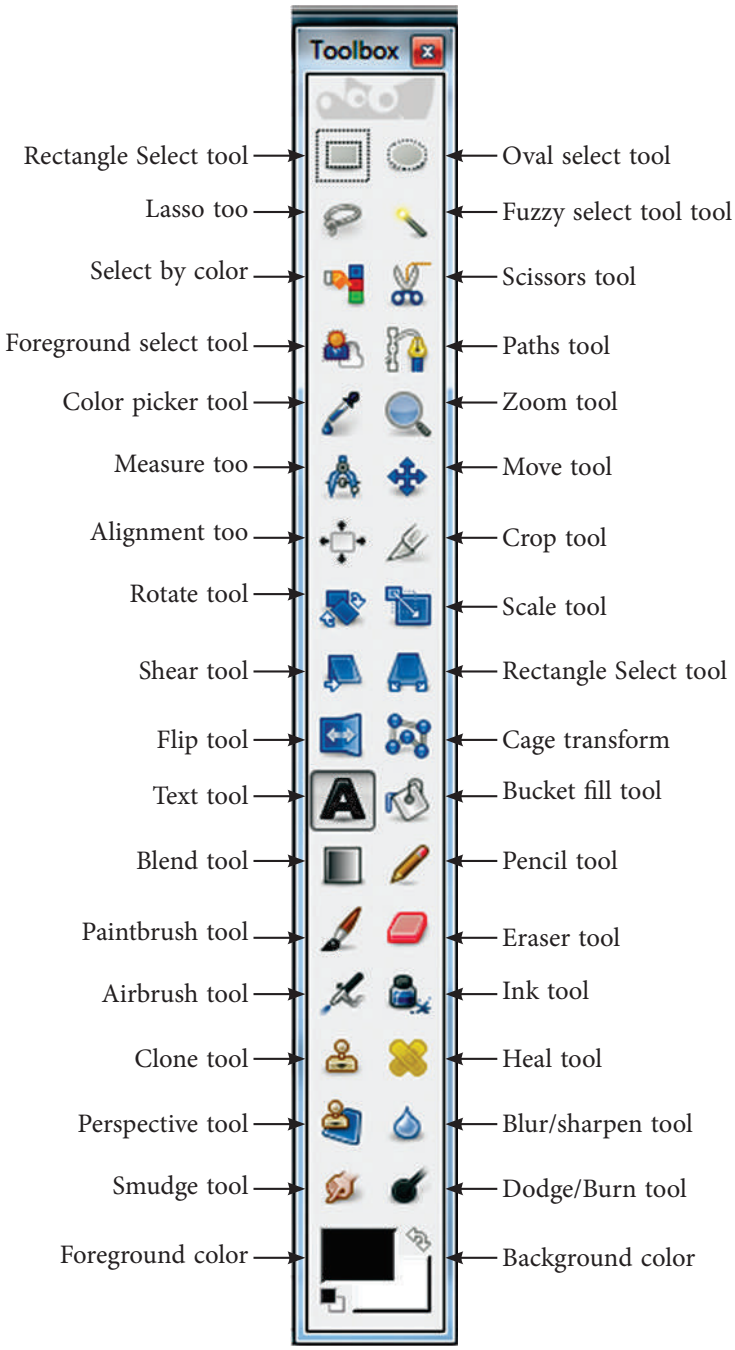
The Oval Selection tool is used to select circular and elliptical regions from an image, with high-quality anti-aliasing if you want it.

5.2.3 Lasso Tool  [F]

The Free Selection tool, or Lasso, lets you select a drawing it free-hand with the pointer, while holding down the left mouse button. When you release the mouse button, the selection is closed by connecting the current pointer location to the start location with a straight line.

5.2.4 Fuzzy Selection (Magic Wand) Tool  [U]

The Fuzzy Select (Magic Wand) tool helps you to select areas of the current layer or image based on colour similarity. The Wand is a good tool for selecting objects with sharp edges.



5.2.5 Select By Colour [Shift + O]

The Select by Colour tool is used to select areas of an image based on colour similarity. It works a lot like the Fuzzy Select tool ("Magic Wand"). The main difference between them is that the Magic Wand selects contiguous regions with all parts connected to the starting point by paths containing no large gaps; while the Select by Colour tool selects all pixels that are sufficiently similar in colour to the pixel you click on, regardless of where they are located.

5.2.6 Text Tool [T]

The Text tool places text into an image. You can write your text directly on the canvas. As you type your text, it appears on the canvas in a rectangular frame.

5.2.7 Eraser Tool [Shift + E]

The Eraser is used to remove areas of colour from the current layer or from a selection of this layer. If the Eraser is used on something that does not support transparency, then erasing will show the background colour as displayed in the Colour Area of the Toolbox

5.2.8 Bucket Fill Tool [Shift + B]

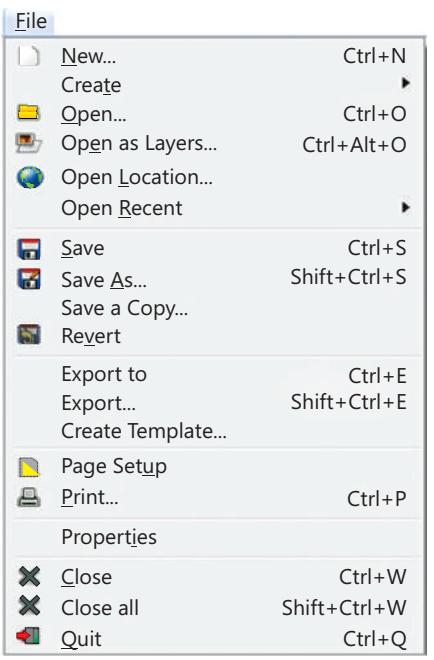
This tool fills a selection with the current foreground colour. If you Ctrl + click and use the Bucket tool, it will use the background colour instead.

5.2.9 Colour Area

This area shows GIMP's basic palette consisting of two colours; the foreground and the background which are used for painting, filling, and many other operations. Clicking on either of the colour displays brings up a Colour Editor dialog, which permits you to change it.

6. MENUS OF GIMP WINDOW

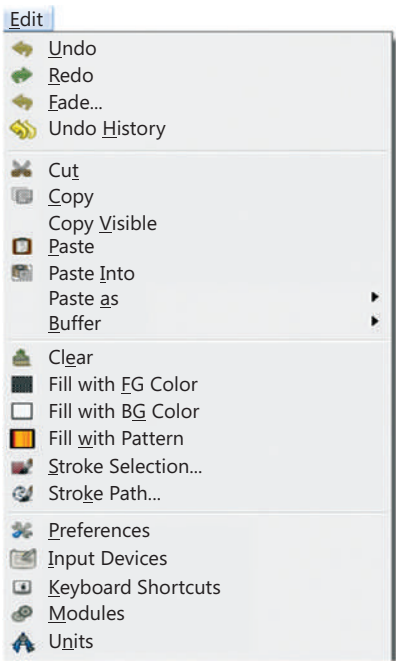
6.1 File Menu



File Menu

Contains the most commonly used commands related to GIMP file.

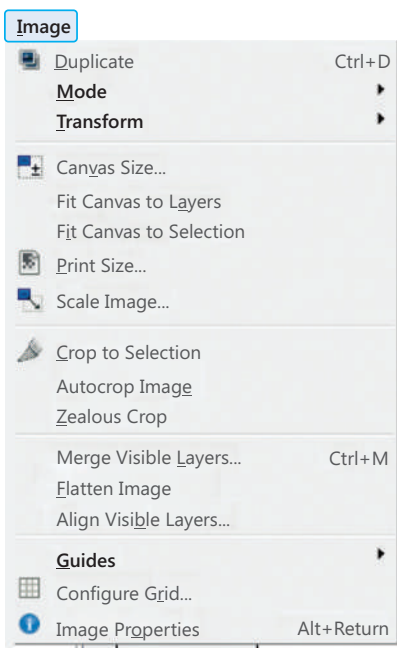
6.2 Edit Menu



Edit Menu

It contains the commands related to the handling of information i.e. cut, copy and paste and other selection commands.

6.3 Image Menu



File Menu

It contains commands which are used to edit the entire image or specific part of an image or active layer.

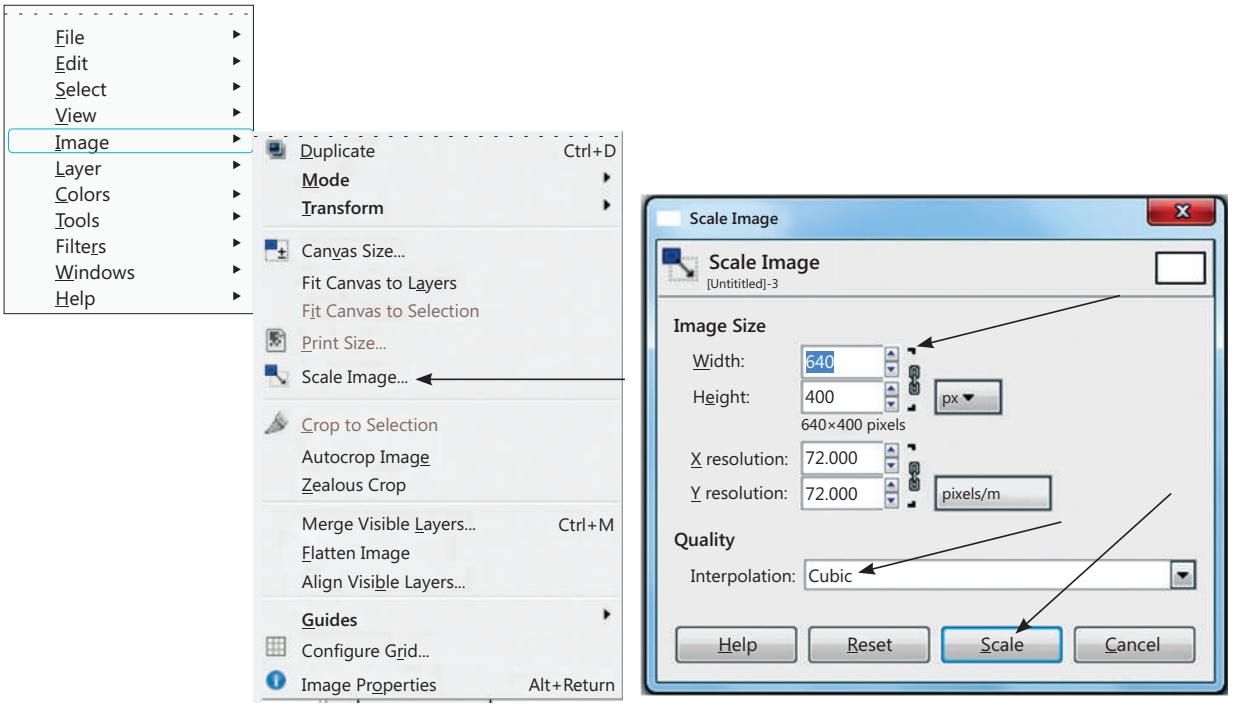
7. EDITING THE IMAGES

7.1 To change the Size of an Image (Scale)

If you have a huge you want to put it nicely for viewing on a web page. GIMP is a quick solution. The first thing that you might notice is that GIMP opens the image at a logical

size for viewing. So, if your image is really big it will display it zoomed out until it fits nicely on the canvas

- Set the Resolution of image
- Set the Interpolation Quality
- Click on "Scale" to confirm.



7.2 How to prepare images for web

To make your jpeg images smaller without changing the pixel and width of the image, you can change the size (bytes) of the image a lot.

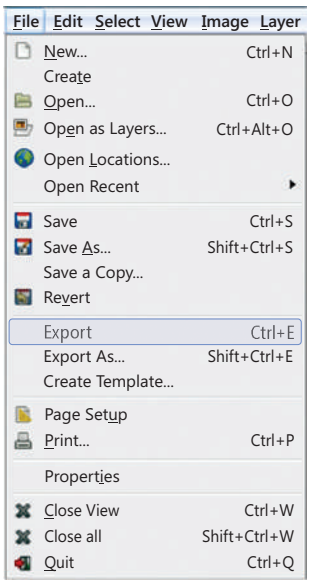
Step 1:

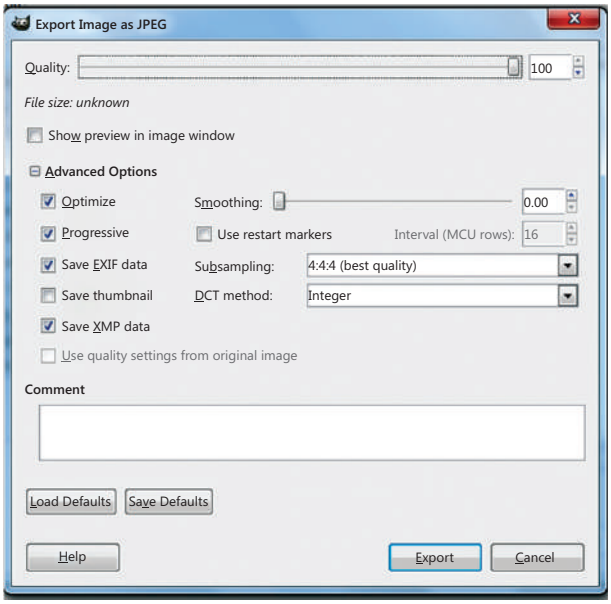
To prepare this image for the web, you first need to reduce the image to a better width and height for web according to the scale.

Step 2:

In **File** → select **Export...**

In the JPEG Save Dialog, you can opt for GIMP defaults which reduce the size quite a bit, without hurting the visual quality of the image. If you would like to make it smaller still, change the compression level by moving the "Quality" slider down. You can see the quality of the image changing.





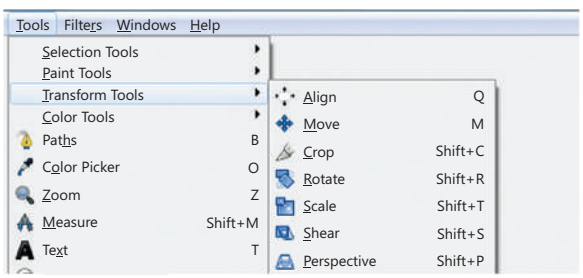
7.3 How to Crop an Image

It is used to select a specified area which you want to focus and removes the unwanted parts or everything outside the selected area of a picture.

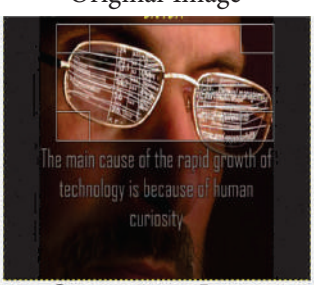
To get to the crop tool, you can either push the button on the toolbox or right click on the image and follow the instructions:

Tools → Transform Tools → Crop & Resize

This will change the cursor and allow you to click and drag a rectangular shape. Always click on the approximate upper left corner and drag to the lower right corner.

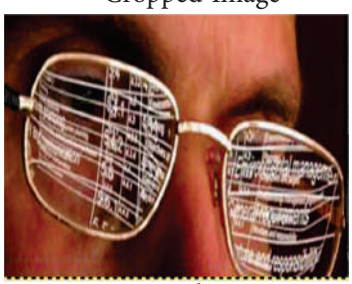


Original Image



Cropping an Image

Cropped Image



Cropped Image

8.1 LAYERS

Layers are wonderful tools, especially to create collages or to delete various portions of an image. In GIMP, the layers are virtually stacked up on top of each other; the lower layers will show through resulting in a composite image that can be exported as a flat file such as a JPEG or PNG. The separate elements of the composite image can be kept on separate layers; return to the layered file and easily edit it before saving a new flattened file.

You will learn about layers in detail in Class X.

Summary

- Image editing encompasses the processes of altering images
- The GIMP – GNU Image Manipulation Program is free and powerful open source image editing tool that provides retouching of photos, authoring of photos and composition of photos.
- The Rectangle Selection tool is designed to select rectangular regions of the active layer.
- Canvas is the part of the image window where the image is displayed.
- The Oval Selection tool is used to select circular and elliptical regions from an image.
- The Lasso tool allows you to select a drawing with the free-hand.
- The Fuzzy Select tool helps you to select areas of the current layer or image based on colour similarity.
- The Text tool places text into an image.
- The Eraser tool is used to remove areas of colour from the current layer or from a selection of this layer.
- The Bucket Fill tool fills a selection with the current foreground colour.
- The Colour area shows GIMP's basic palette, consisting of two colours, the Foreground and Background, used for painting, filling, and many other operations.
- Cropping is used to select a specified area which you want to focus and removes the unwanted parts or everything outside the selected area of a picture.
- Layers are transparent sheets stacked one on top of the other. You can see through transparent areas of a layer to the layers below.

EXERCISE

A. Multiple Choice Questions:

1. GIMP is image an _____ editing tool.
   (a) Open source (b) Proprietary
   (c) Shareware (d) Both (a) & (b)

2. The _____ tool allows you to select a drawing with the free-hand.
   (a) Fuzzy Selection (b) Lasso
   (c) Text d. Bucket Fill

3. The Fuzzy Select (Magic Wand) tool helps you to select areas of the _____.
   (a) Canvas (b) All the layers
   c. Current Layer (d) Image with different colours

4. Shift+ C is the shortcut to _____ the image.
   (a) Duplicate (b) Delete
   (c) Copy (d) Crop

5. To prepare the images for the web means
   (a) Reducing the size of an image (b) Zipping the image
   (c) Crop the image (d) All of the above

6. GIMP's basic palette, consisting of _____ colours.
   (a) Three (b) Two
   (c) One (d) Many

7. _____ are transparent sheets stacked one on top of the other.
   (a) Layers b. Canvas
   (c) Windows (d) None of the these

8. Scale option is used to change the _____ of an image.
   (a) Colour (b) Size
   (c) Area (d) All of the above

9. It is the most important part of the image window where the image is displayed.
   (a) Canvas (b) Window
   (c) Scale (d) Size

10. The _____ tool places text into an image.
    (a) Fuzzy Selection (b) Text
    (c) Eraser (d) Bucket Fill

B. State True(T) / False(F)

(a) Paint.net is most favourite of windows users. (T/F)

(b) The Corel Paint Shop Photo Pro allows you to adjust and clean-up your photos. (T/F)

(c) GIMP is open source image editing tool. (T/F)

(d) Faststone image viewer has only 120 image transitional effects.

C. Fill in the blanks

(a) The Corel Paint Shop Photo Pro allows you to use the _____ with advanced enhancement tools.

(b) The PhotoStudio 6 provides the feature for adding _____ and stamping facility on high-bit depth images.

(c) _____ is the most powerful image editing tool.

(d) _____ is the tool not for detailed editing.

(e) GIMP is presented in _____ forms.

(f) Layers are wonderful for creating _____.

(g) Cropping removes _____ or everything outside _____.

(h) GIMP 2.8 defaults to _____ window mode.

D. Answer the following questions:

Q.1. What is image editing ?

Q.2. List few image editing tools available.

Q.3. Explain GNU Image Manipulation Program ?

Q.4. What is Photo retouching ?

Q.5. Download GIMP on your PC/Laptop and paste snap shot of your work according to your download.

Q.6. Write down the expansions of the following :

(a) .gif
(b) .png
(c) .tff
(d) .jpeg
(e) .jpg
(f) .psd
(g) .bmp

Q.7. Explain functionality of the following :-

(a) 
(b) 
(c) 
(d) 

Q.8. Discuss how to change the size of an Image.

Q.9. How we can prepare images for web?

Q.10. What do you understand by Layers?

E. Lab Session

1. Take your family picture, scan it and change the background colour and clothes colour using paint tools and layouts.
2. Design your Birthday party invitation using appropriate tools.
3. Import an image file of your choice. Change the foreground and the background color, use a text tool to give a heading to your file. Select the text tool and type your name in blue color. Select a portion of the picture and then change the direction. Save the file.
4. Make a collage on " heritage of India"
5. Design digital poster on "Global Warming".

Chapter 4

Introduction to HTML



Learning Objectives

By the end of this chapter, learner will be able to:

- Understanding of basic structure of HTML
- Learning of various container and empty tags
- Learn various html tags and their syntax.
- Understanding of formatting elements of HTML

INTRODUCTION

HTML refers to Hypertext Markup Language. There is a special kind of text used by web browsers that represents the data. This data may be in the form of letters, images, audios or videos. This special text is given emphasis, which some people may say, it is marked up through a link to the other documents. Thus a page formed using the special text is called a document or a webpage. A webpage can get opened in a web browser. The web browser accesses the web page from the web server (a place which holds most of the webpages). A web server may be placed anywhere in the world. This means that a web browser can access a webserver only if it connects to internet (network of networks across globe). The HTML was founded by the group called "World Wide Web Consortium" in 1990.

1. OVERVIEW OF HTML

1.1. Who Invented HTML

HTML was invented in November 1990 by a scientist called Tim Berneses-Lee. The purpose was to make it easier for scientists at different university to gain access to each other's research documents.

1.2 A Brief history

HTML is not an invention but an improved version of Standard Generalised Markup Language(SGML).SGML is a Meta Language (general -- purpose language)used for defining and creating descriptive markup language.

1.3 What tools do you need?

To get started with html documents, only two basic things are required

- A text editor/HTML editor
- A Web Browser

1.4 Tags and Attributes

The World Wide Web Consortium has given a set of standards while building the HTML language. The W3C uses some special words to define an action.

A **tag** is a special word enclosed in angle-brackets < >. A tag tells the browser to perform an action as asked by the special word. The special word may be written either in lower case or upper case. The browser will respond to both the cases equally.

The HTML tags are normally comes in pair of start and end tag(an opening tag and closing tag). While the start tag is written in the beginning of the element as <SpecialWord>, the end tag is written at the completion of the element as </SpecialWord>.

For example: When you want to begin with writing source code using HTML, you write the start tag as <HTML> and when you have completely written in the HTML document and want to end it, you write the end tag as </HTML> i.e. insert a forward slash followed by HTML in angled brackets.

The characteristics or the features of a tag are defined by an **attribute**. An attribute is used inside a tag. An attribute always takes a *value* to help the browser perform the specific task in a particular direction. There may be more than one attribute used inside a tag.

An **element** is a combination of a start tag, the text(we also use text to insert graphics) and the end tag.

For example:

<body> element begins with start tag, followed by text and ends with end tag.</body>

In simple words, one can equate an element to a block, a tag to an instruction and an attribute to an extension to a instruction.

Container of Tags: One set of tags may contain another set of tags. This is called nesting of tags. The second block of tags is always contained in first block as shown below:

<TAG1> <TAG2>……</TAG2> </TAG1>

<TAG1> and </TAG1> is the first block of tags. <TAG2> and </TAG2> is the second block of tags.

2. STRUCTURE OF HTML DOCUMENT

The basic structure of HTML document is shown below:

<HTML> <HEAD> <TITLE> The Structure of HTML Document </TITLE> </HEAD>	First section
<BODY> The Body of the HTML Document </BODY> </HTML>	Second section

The basic structure of the HTML document is divided into two sections namely, the head and the body. The browser enters the first section after executing the start tag of HTML (telling the browser to begin interpreting the HTML commands) and start tag of HEAD. The first section helps in changing the heading on the title bar of the HTML document (the webpage). The starting of the heading is shown after the start tag of TITLE and the end is shown by </TITLE>. The end tag of HEAD i.e. </HEAD> tells the browser that the end of first section has come.

The second section begins with the start tag of BODY. The data on the webpage is displayed through the tags used in this section. The end tag of BODY i.e. </BODY> tells the browser that no more data is to be inserted on the webpage and the end of the web document has come. After the completion of this section, the slash HTML or the end tag of HTML tells the browser to stop looking for HTML commands. This implies that any tag used after the end tag of HTML will not be interpreted by the browser and so no action will be performed.

Please Note: All the sentences containing any number of whitespaces written inside a tag within the body element will appear as written in the HTML code. Any whitespace inserted outside the tag within the body element will be interpreted as null, void or amounting to nothing by the browser. That is, such whitespaces outside the tag will not appear anywhere on the webpage.

3. SAVING THE HTML DOCUMENT

When you have finished writing the HTML code in the text editor, click on File menu and select Save option. This opens a window, which asks you to save the file in a folder and

give a name and an extension to the file. The extension in this file will be .html or .htm. (e.g. **basic.htm** or **firstHTMLDocument.html**). This will turn the file into a webpage.

In order to modify the webpage, either open the web page and click on View→source or open the webpage with notepad.

4. CONTAINER AND EMPTY TAGS

Before we proceed further to formatting tags, it is necessary for you to understand the difference between the container and the empty tag. **A container tag** has both the start and the end tag. The text or the graphic is inserted inside the beginning and end tag of the container tag. For example: <body>This is a container tag</body>. The <BODY> tag here is a container tag which has both the beginning and the ending tag and the text in between both the tags.

The **empty tag** is a stand-alone tag. This implies that such a tag has beginning but no ending tag. For example: The **
** tag is used for adding one line break. Such a tag does not need an end so as to tell the browser, that end of line break has come because there is no need. Such a tag is called empty tag. **HR** is another empty tag. This tag is used to insert a horizontal rule on the web page. **Comment** tag is also an empty tag. This tag is ignored by the browser. This tag is used to increase the readability of the HTML source code. With this tag, you can insert a description about a command. This is written as : <!--, followed by description or remark on a command, followed by -->. For example: <!-- Hello -->

<BODY>…</BODY>

The second section of the webpage begins with the <BODY> tag. This defines the visible section of the document. It has a number of attributes which controls the overall appearance of the document. The attributes that are used with this tag are listed below in the table:

Attribute of the <body> tag	**Description**
BGCOLOR	The background of the webpage is displayed with a color that has been taken as value by this attribute.
BACKGROUND	The background of the webpage is displayed with an image whose address is taken as value by this attribute.
TEXT	Specifies the color of the text in the document.
LINK	Defines the color of the link in the document
ALINK	Defines the color of the active link in the document
VLINK	Defines the color of the visited link in the document

4.1 Formatting Elements

In a web page, the text is an important component especially when there is no picture or graphic. It becomes therefore necessary to change the style of text at every paragraph, so that they become presentable. There are a number of tags that help you to format the text.

4.1.1 <Heading Tags>

Heading tag is used to display the heading or the main topic on the web page. This tag varies from H1 to H6. This is a container tag. The heading tag <H1> shows the heading with the largest font size. As you increase the number in the heading tag, the font size goes down as shown in the example given below:

<H1> This text is in largest font i.e. H1 font </H1>

<H2> This text is in larger font i.e. H2 font </H2>

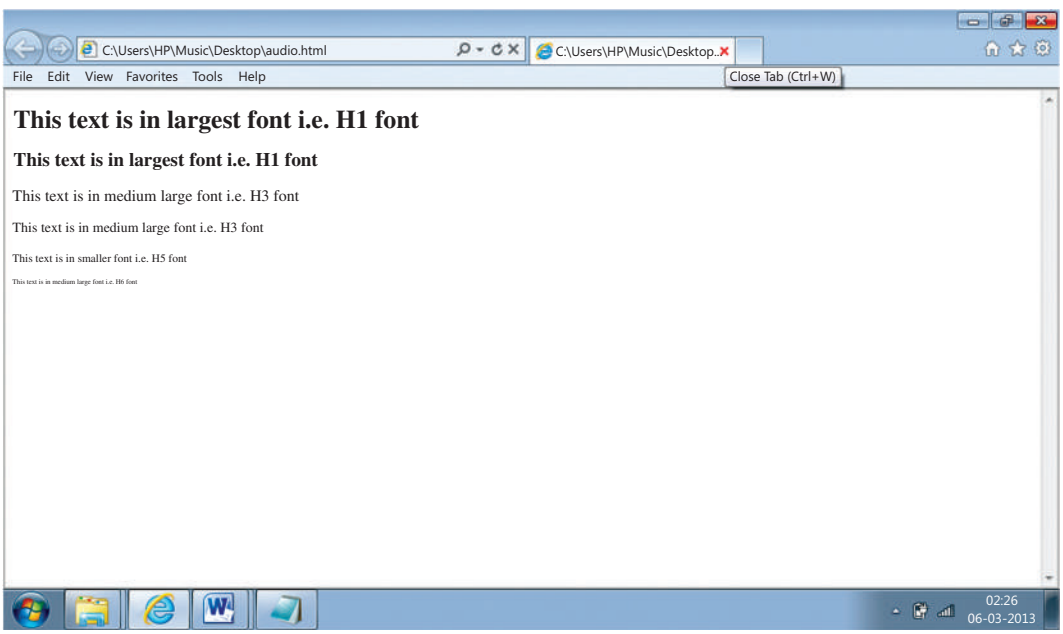
<H3> This text is in medium large font i.e. H3 font </H3>

<H4> This text is in medium small font i.e. H4 font </H4>

<H5> This text is in smaller font i.e. H5 font </H5>

<H6> This text is in smallest font i.e. H6 font </H6>

The above code produces the following output:



We can see from the output that the size of the font keeps decreasing as one increases the number in the heading tag.

4.1.2 The <FONT> tag

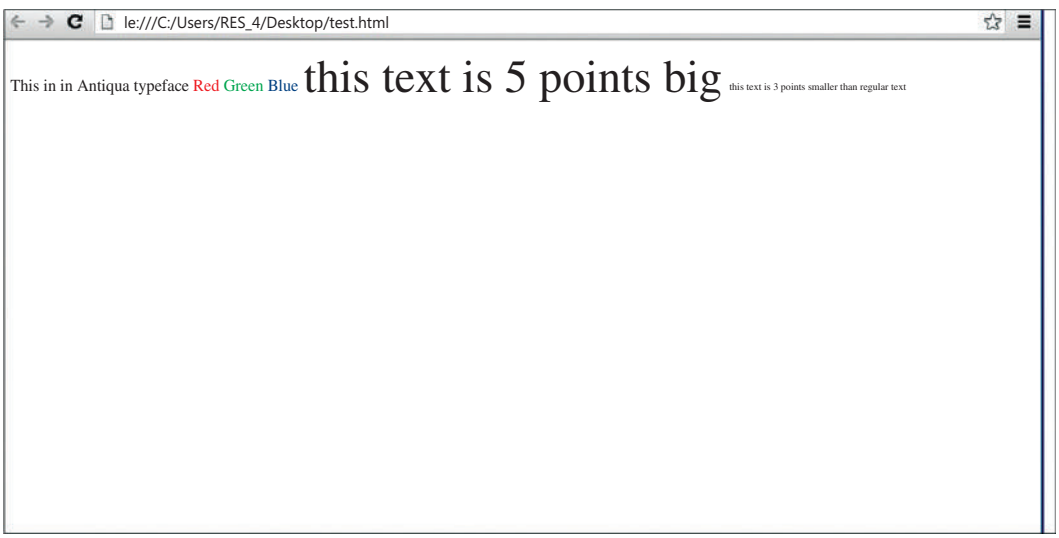
The FONT tag is a container tag that has a number of attributes listed below in the table

Attribute of the <font> tag	Description
FACE	Sets the text to the name of the font used as its value.
SIZE	Decides the scale of the text. It can range between -7 and +7.
COLOR	Changes the color of the text written inside the container tag.

The following example will help you understand the use of FONT tag.

```
<font face=”Book Antiqua”>This is in Antiqua typeface</font>
<font color=”#ff0000”>Red</font>
<font color=”#00ff00”>Green</font>
<font color=”#0000ff”>Blue</font>
<font size=+5> this text is 5 points big</font>
<font size=-3> this text is 3 points smaller than regular text </font>
```

The above code produces the following output:

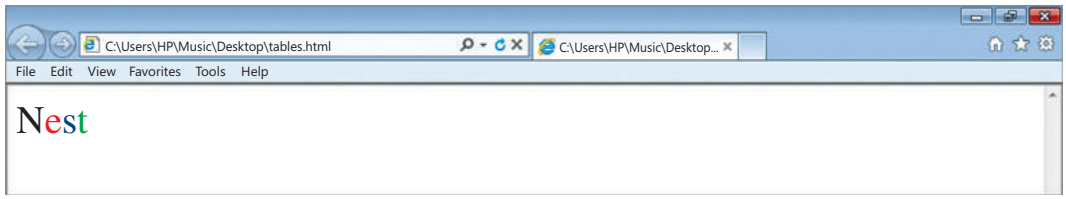


Please Note: The face name is case insensitive.

Font tag can be nested. We can understand this by an example.

```
<font size=+3>N<font color=red>e</font><font color=blue>s</font><font color=green>t</font></font>
```

The above produce the following output:

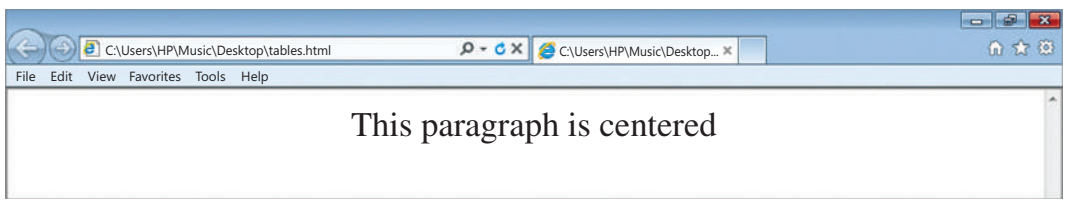


4.1.3. Entering Paragraph Text on your Web page

A paragraph can be written on the web document using the tag. This is a container tag, though the tag is optional. It uses one attribute called *align* that takes the value left, right or center.

```
<FONT SIZE=+4><P ALIGN=”CENTER”>
This paragraph is centered.
</P>
</FONT>
```

In the above code, the align attribute takes the value center. The output of the above code is:



4.1.4.The CENTER tag

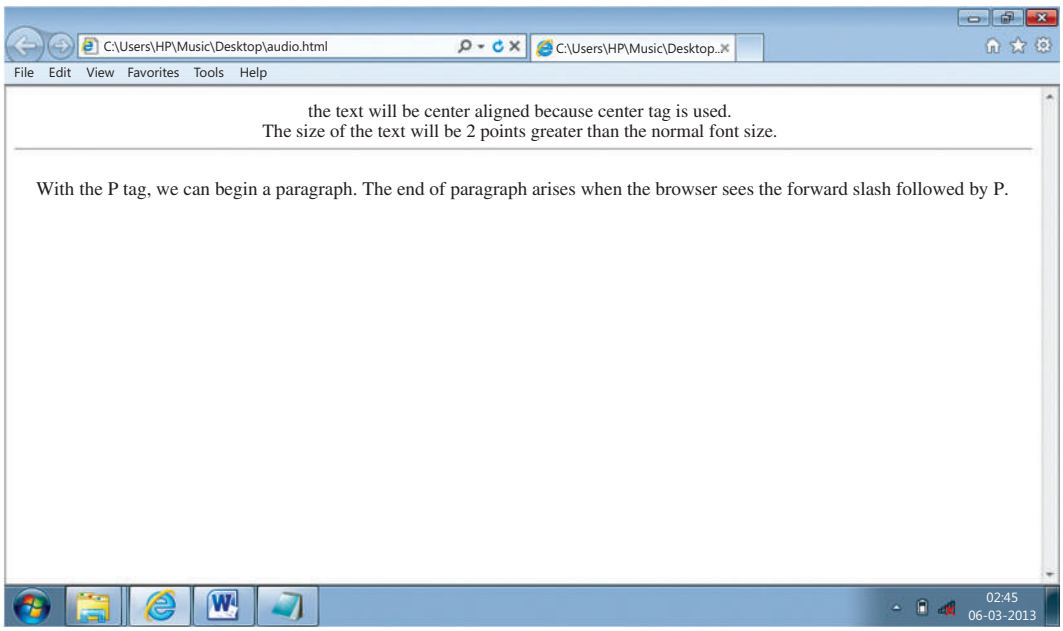
Is needed to place the text in the center. Sometimes it may not be possible to use align attribute again and again along with a tag. Then it is better to use nested form of center tag once and use other tags inside the opening and closing center tags.

For example:

```
<center>
<font size=+2> the text will be center aligned because center tag is used.
<br>
        The size of the text will be 2 points greater than the normal font size.
<br>
<hr>
<br>
<p>
```

```
With the P tag, we can begin a paragraph. The end of paragraph arises when the browser sees the forward slash followed by P.
</p>
</font>
</center>
```

The above code produces the following output:



Please note: In the above output, the line that separates the font tag with the paragraph tag has been placed on the webpage using <hr> tag. The <hr> tag is an empty tag, similar to <br>.

4.1.5. Bold, italics and underline

There are other tag that help in changing the style of the font. They make the text boldface, italics and underlined. They are shown in the table below:

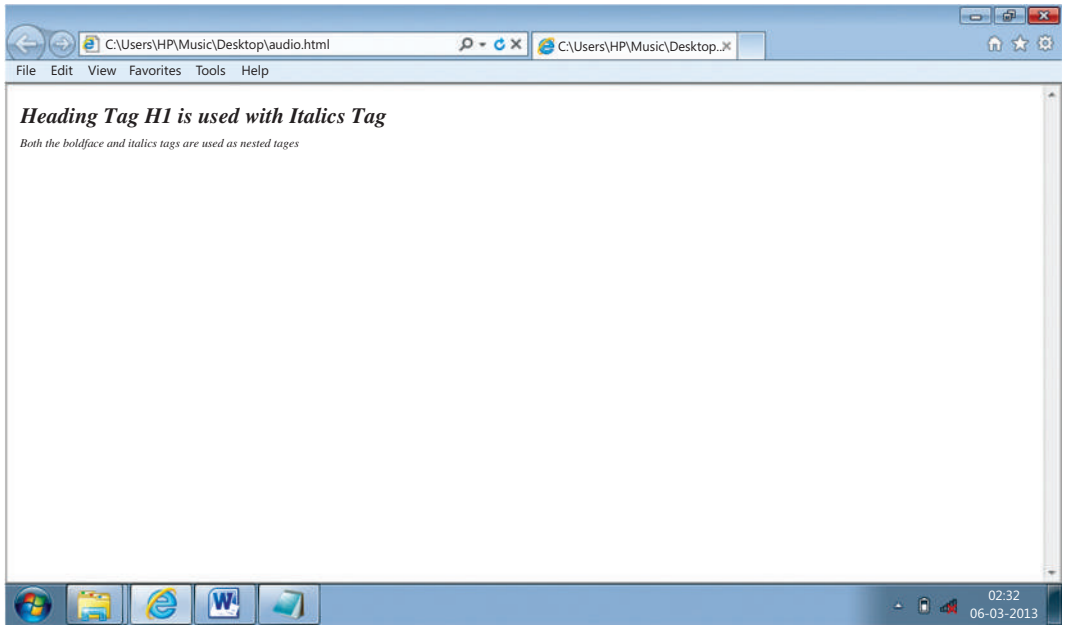
Tags	Meaning
<B>, </B>	Bold text
<I>, </I>	Italic text
<U>, </U>	Underlined text

For Example

The following code uses tag <I> in combination with header tag <H1>.

```
<H1><I>Heading Tag H1 is used with the Italics Tag</I></H1>
<B><I>Both the boldface and italics tags are used as nested tags</I></B>
```

The above code produces the following output:



4.1.6 The following table gives a list of tag used in the chapter, with their example and the output:

S. No.	Start tag	End Tag	Example	Output
1	<h3>	</h3>	<H3>Use H1 or H2 or H3 etc. for headings</H3>It automatically adds a paragraph break after the heading.	Use H1 or H2 or H3 etc. for headings It automatically adds a paragraph break after the heading.
2			You can change the actual font used to some extent within your text. In this instance, the browser will attempt to use “Arial”; if not, it will ignore the instruction.	You can change the actual font used to some extent within your text. In this instance, the browser will attempt to use “Verdana” if the computer has it; if not, “Arial”; if not, “Helvetica”; if not, a generic sans-serif font; if not, it will ignore the instruction.

S. No.	Start tag	End Tag	Example	Output
3			Increases font size by the amount of the number. You can also use negative numbers.	Increases font size by the amount of the number. You can also use negative numbers.
4			You can change the font color within your text.	You can change the font color within your text.
5			Right aligned paragraph. You can use the “p” tag as a container to align text to the right	Right aligned paragraph. You can use the “p” tag as a container to align text to the right
6			Centers the text	Centers the text
7			This is for bold text	This is for bold text
8			This is for italic text	This is for italic text

Summary

1. The World Wide Web Consortium has given a set of standards while building the HTML language.
2. The basic structure of the HTML document is divided into two sections namely, the head and the body.
3. A container tag has both the start and the end tag.
4. HR is another empty tag. This tag is used to insert a horizontal rule on the web page.
5. Heading tag is used to display the heading or the main topic on the web page. This tag varies from H1 to H6.
6. A paragraph can be written on the web document using the tag. There
7. Bold, Italic and Underline are those tags that help in changing the style of the font.

EXERCISE

A. Name the tag used for:-

1. Inserting a section break
2. Marking up text to appear bold
3. Marking up text to appear italic
4. To change the font size of the entire html document.
5. To write a paragraph aligned to the right side of the page.

B. Correct the errors in the following HTML code:

<HTML>
<TITLE> My first program
<BODY>
<P Align="centre"> This is my first web program </P>
<HEAD>
<HTML>

C. Multiple choice Questions

1. Html uses
   (a) Pre specified tags (b) User defined tags
   (c) Fixed tags (d) Tags used for linking
2. What is the correct html tag for inserting a line break?
   (a) <break> (b)
   (c) <lb> (d) <line break>
3. Choose the correct HTML tag to make the text bold
   (a) <bold> (b) <b>
   (c) <large> (d) <Big>
4. Choose the correct html tag for the largest heading
   (a) <h1> (b) <heading>
   (c) <head> (d) <h6>
5. How many blank line breaks will a browser create if you enter four <br> tag
   (a) 5 (b) None
   (c) 3 (d) 4

D. State True or False:-

1. Html is a case sensitive language.

2. SGML is an improved version of HTML.
3. A tag is a special word enclosed in angle-brackets < >.
4. HTML is divided into 3 sections head, title and body.
5. VLINK defines the link of active link.

E. Answer the following questions:-

Q.1. What is font tag? Name the various attributes of font tag.

Q.2. Difference between <br> and <hr> tag.

Q.3. Differentiate between LINK, ALINK and VLINK.

Q.4. Explain heading tag with the help of a suitable example.

Q.5. Difference between container tag and empty tag.

Q.6. Write down the basic structure of HTML document.

Q.7. How do you create a comment tag?

Q.8. Name and explain any 2 attributes of body tag.

Q.9. Name the tools required to create a html document.

Q.10. Write a short note on HTML.

F. Lab Session

- Create a HTML document to print your name 5 times in 5 different fonts.
- Write a HTML document to display the name of school in bold and italic both.
- Create a HTML document containing three paragraphs with different alignments.
- Create HTML document containing different heading tags.

Chapter 5
HTML II



Learning Objectives

By the end of this chapter, learner will be able to:

- Differentiate the different types of lists created in HMTL.
- Display the data using Lists tag available in HTML.
- Link web pages using <A> tag.
- Insert audio & Video in a web page to make it more interactive.
- Insert images in a web page.
- State the purpose of Inline & external images.
- Use images and Email addresses as hyperlinks.

INTRODUCTION

As we have already discussed in previous chapter about HTML. Hypertext Markup Language is used by web browsers that represents the data. In this chapter, we will cover advance formatting tags of HTML such as Lists, inserting images, videos, music and creating links between two or more webpages.

1. HTML Lists

Lists provide the information in a structured and easy to read format. The data item on the webpage can catalogued or indexed. The index that is formed using numbers like 1,2,3,…or symbols like →, β, ∞ is called a List in HTML. These lists help in formatting the data and put them in a particular order. There are three types of lists that you can use in HTML. They are:

- UL - creates an unordered or bulleted list
- OL - creates an ordered or numbered list
- DL - creates a definition or glossary list

The first two are very similar in structure, while definition lists have a unique setup. To create either kind, first specify the start of a list and then identify each line item in the list

1.1 Unordered List <ul> ….

It classifies the data items that have equal importance i.e. none of the data items are ranked. They are identified by a symbol. It may be a □ square, a ○ circle or a ● disc. The

attribute TYPE helps in using the symbols to create a list. This attribute takes the value as the name of the symbol.

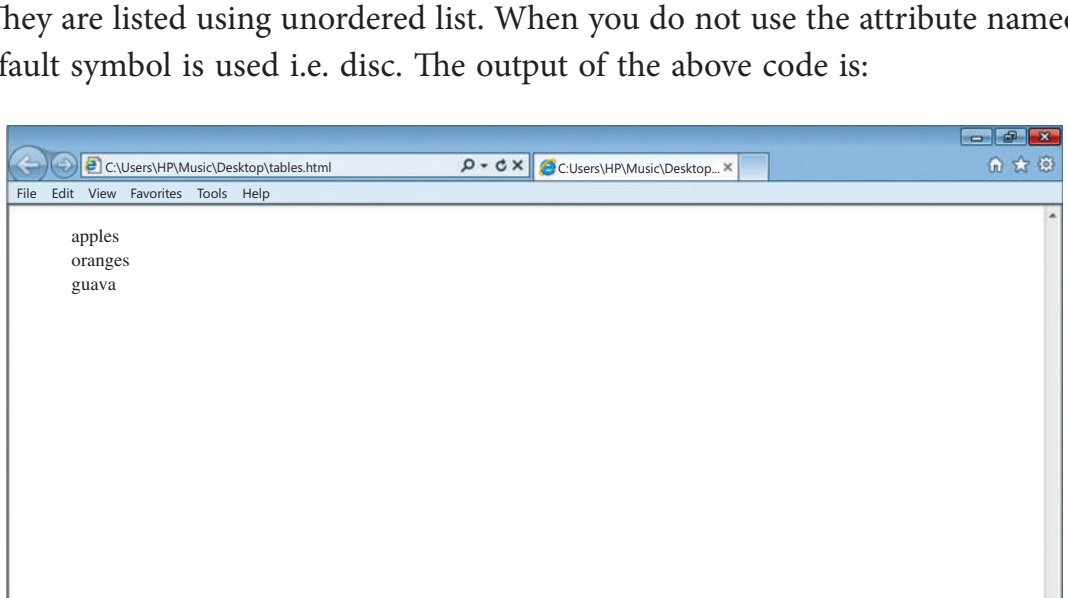
```
<ul type=”square”>
<ul type=”disc”>
<ul type=”circle”>
```

This is a container tag. It has both the opening and the closing tag. However the closing tag is optional. The listing is created under it using the <li> tag. Again <li> tag is a container tag. The data item to be listed is input between the opening <li> and the closing tag as shown in the following example:

For Example1:

```
<body>
   <ul>
      <li>apples </li>
      <li>oranges</li>
      <li>guava </li>
   </ul>
</body>
```

In the above code the data item comprises of the fruits that have equal importance to the user. They are listed using unordered list. When you do not use the attribute named type, the default symbol is used i.e. disc. The output of the above code is:

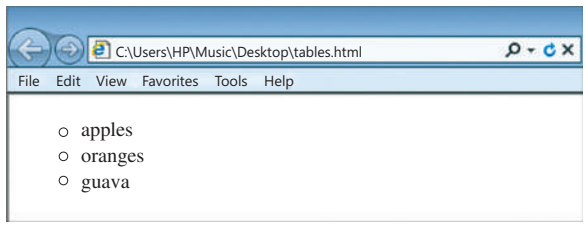


If you want to change the symbol to circle, use the following code:

For Example2:

```
<body>
    <ul type =”circle”>
        <li>apples </li>
        <li>oranges</li>
        <li>guava </li>
    </ul>
</body>
```

The output of the above code is:



1.2 Ordered Lists <ol> …

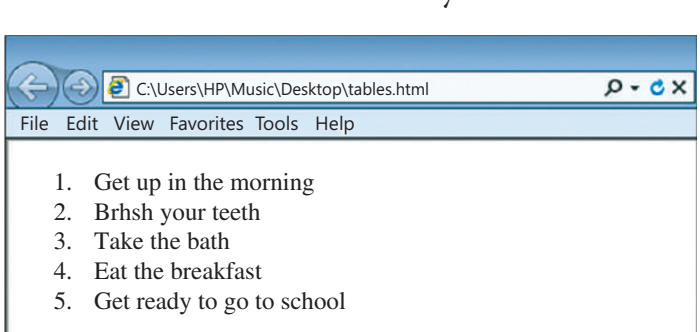
It classifies the data items that do not have equal importance. All the data items are ranked. The ranking can be done using the numbers, the roman letter or alphabets. The default symbol is number. In case you want to change to other symbols of ordered list, you can use the attribute. The attributes used with this tag are given in the table below:

Attributes of tag	Description
TYPE	Changes the symbol used with the list. It takes the value as the symbol itself i.e. it can be “a” or “A” or “I” or “i” or “1”.
START	Begins the list with value specified. It takes the value of the symbol from where to begin the list

For example 3:

```
<body>
 <ol>
  <li>Get up in the morning</li>
  <li>Brush your teeth</li>
  <li>Take the bath</li>
  <li>Eat the breakfast</li>
  <li>Get ready to go to school</li>
 </ol>
</body>
```

The above code produces the following output. Notice that the symbol used to create the list is number. Thus number becomes the default symbol.

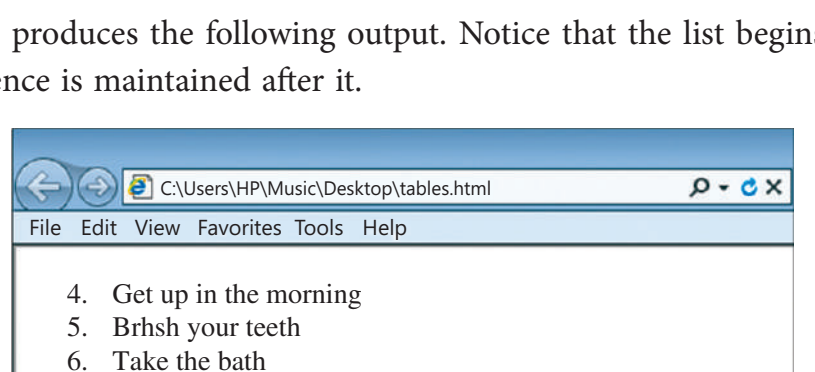


The **start** attribute allows you to further customize an ordered list by setting a new starting digit for the ordered list element as can be seen in the following example:

For example 4:

```
<body>
<ol start=”4” >
 <li>Get up in the morning</li>
 <li>Brush your teeth</li>
 <li>Take the bath</li>
 <li>Eat the breakfast</li>
 <li>Get ready to go to school</li>
</ol>
</body>
```

The above code produces the following output. Notice that the list begins from number 4 and the sequence is maintained after it.

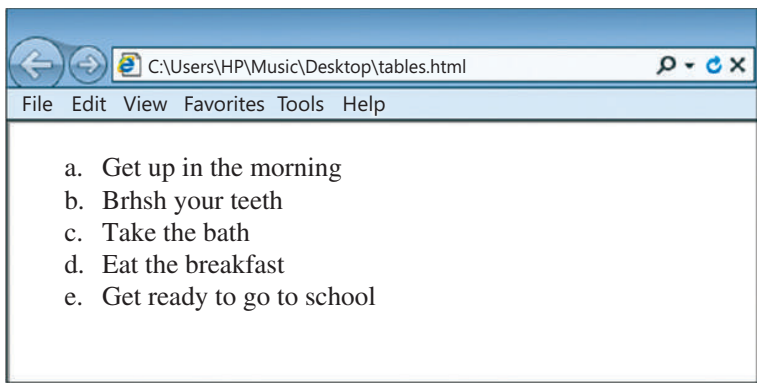


The **type** attribute changes the symbol as shown in the following example.

For example 5:

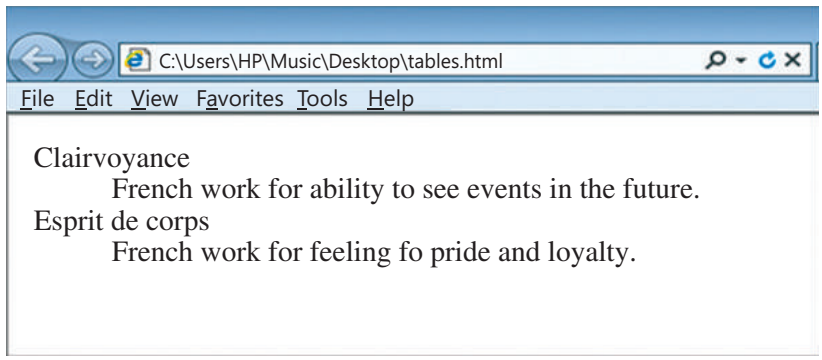
```
<body>
<ol type = "a">
 <li>Get up in the morning</li>
 <li>Brush your teeth</li>
 <li>Take the bath</li>
 <li>Eat the breakfast</li>
 <li>Get ready to go to school</li>
</ol>
</body>
```

The output of the above code is given below. Notice that the symbol has changed from default number to the alphabet.



1.3 Definition Term Lists <dl> .... </dl>

Definition lists (<dl>) are the list elements that have an array of tags. The list prepared by <dl> tag is similar to a dictionary. The other tags used with this are <dt> to define the definition term and the <dd> for the definition of the list item.



For example 6:

```
<dl>
 <dt>clairvoyance</dt>
 <dd>French word for ability to see events in the future.</dd>
 <dt><b>Esprit de corps</b></dt>
 <dd>French word for feeling of pride and loyalty.</dd>
 </dt>
</dl>
```

The above code produces the following output. The opening <dl> tag starts the definition list. The container <dt> tag opens the definition terms like Clairvoyance and Esprit de corps. While the first word is in regular font, the second word is in boldface because another container tag <b> is nested inside <dt> tag. The meaning of the definition term is provided by <dd> definition description. Notice that the container tag <dd> presents the definition description below definition term slightly right tabbed as shown in the output window.

2. IMAGE

2.1 Meaning of Image

An image add a flair to a webpage. The image in a web page is a drawing painted through paintbrush or a photograph taken through a digital camera or a clipart. There are 2 types of types of images. They are i) inline image ii) external image. The inline image is shown when the webpage is opened in the browser. On the other hand, the external image is shown only when demanded by the user by clicking on a link.

2.2 Inserting an inline image to the webpage

You can insert an image using the <IMG> tag. This tag does not have an end tag. The basic syntax of <IMG> tag is given below:

```
<img src = " address or the path to the image file"
  width= " "
  height= " "
  alt= " "
  longdesc=  "htmlfilename">
```

Let us discuss the attributes one by one:

2.2.1 SRC

The address or the path to the image is taken as value by SRC attribute. Let us discuss the cases of different addresses that can be accepted by SRC attribute.

Case1

If you have saved "Flower.jpg" in "Documents" folder, then the address would be: "C:\My documents\My Pictures\Flower.jpg"

Case2

If you have saved "Flower.jpg" in the same folder as the HTML document, then the address would be: "Flower.jpg"

Case3

If "Flower.jpg" is not in your computer but is saved in folder 'images' of the Web server of yahoo, then the address would be:

"http://www.yahoo.com/images/flower.jpg"

2.2.2 Width and Height

The width and the height attribute defines the boundaries of image. The value can be an absolute number (recognized as pixels) or in percentage (in proportion to the size of web window).

For example7:

An image of height 150 pixels and width 200 pixels is inserted on webpage as:

```
<img src="flower.jpg" width="200" height="150">
```

The output of the above code is as under. It displays an image of two white flowers on the web page.



Note

The image is made of pixels. When you increase the size of the image, the resolution of the image gets decreased. This makes the image less clearer to view. The width and height aren't strictly necessary but help to speed the display of your Web page.



2.2.3 ALT

When the image does not get download (due to heavy traffic or unsupportive browser), the user may expect a description of the image. The "alt" attribute is used for such purposes as shown here:

For example 8:

```
<img src="flower.jpg" width="200" height="150" alt="Two White Roses">
```

2.2.4. Longdesc

If the description is too long, you can even attach an html file, in another attribute called "longdesc". This attribute is complementary to "alt" attribute as shown:

For example 9:

```
<img src="flower.jpg" width="200" height="150" alt="White Roses" longdesc="abc.html">
```

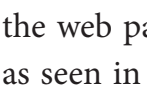
2.2.5 Align

You can use the "align" attribute to place the image on left or right side of the webpage. If the align attribute is set to left, the image floats to the left margin. If it is set to right, the image floats to the right margin.

For example 10:

```
<p>
<img src="flower.jpg" alt="White Roses" width="32" height="21" align="left"> The image will be flowed to the left side of the webpage and this text will therefore be placed on right side.
</p>
```

In the above code the paragraph tag <p> helps in forming the paragraph to be displayed along with the image on the webpage. "Alt" attributes describes the image when the image cannot be displayed by the browser. "Height" and "width" attribute decides the area of the image on the web page and the "align" attribute defines the position of the image on the web page. Since the image is set to the left side, the text flows towards the right side as seen in the output below:



The Image will be flowed to the ldft side of the webpage and this text will therefore be places on right side.

2.3 Inserting external image

An external image may be required in any of the following situation:

1. When the image formats like BMP or PICT are not supported by the browsers. Most browsers support either GIF format or JPG format.
2. When an image is to be viewed in text-only browser.
3. When you want to see the larger size of the inline image.

> **Note**
> The external image can be inserted on the webpage using an anchor tag which may be learnt from the later section of the chapter.

2.4 Inserting audio or video

When you prepare a webpage, an audio or moving picture makes the page impressive and pleasing. When you want to show the operations of your business, you can do so by inserting a movie. Both the audio and video can be inserted using a plug-in. A plug-in is a small computer program that extends the standard functionality of the browser. You can insert such plug-in using the <embed> tag. The embed tag acts as container to non-HTML resource.

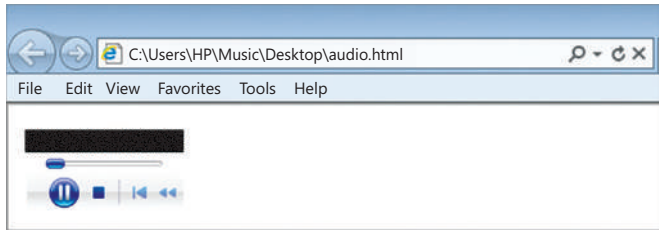
2.4.1. The <embed> Element to insert audio

The <embed> tag defines a container for external (non-HTML) content. The non-HTML contents are the objects other than the text and the graphics used in HTML. They are sound effects, the video clips and moving pictures. If you want to insert a song at the background of the webpage, use the following code to embed a MP3 file in the webpage.

For example 11:

```
<embed height=”50” width=”100” src=”titanic.mp3”>
```

The above code displays an audio player (of the dimensions as specified in the code) on one corner of the web page as shown in the output. The songs begin to play, the moment the webpage gets opened. However, the user can stop or pause the song whenever he so desires. If you want to place the audio player in the center, you can use the center element since it does not have another attribute to place it in center of the window.



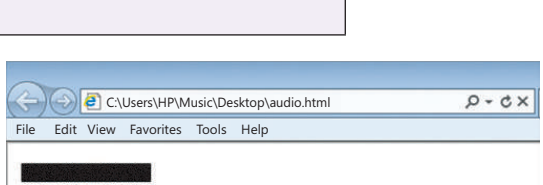
2.4.2. The "control" and "autoplay" Attribute of <audio> tag.

The "autoplay" attribute of <audio> specifies that the audio will start playing as soon as it is ready. The song inserted at the background of the webpage, use the following code to embed and auto play a MP3 file in the webpage.

For example 12:

```
<audio controls autoplay>
<embed height="50" width="100" src="titanic.mp3">
</audio>
```

The above code displays an audio player on one corner of the web page as shown in the output. The songs begin to play automatically, the moment the webpage gets opened.



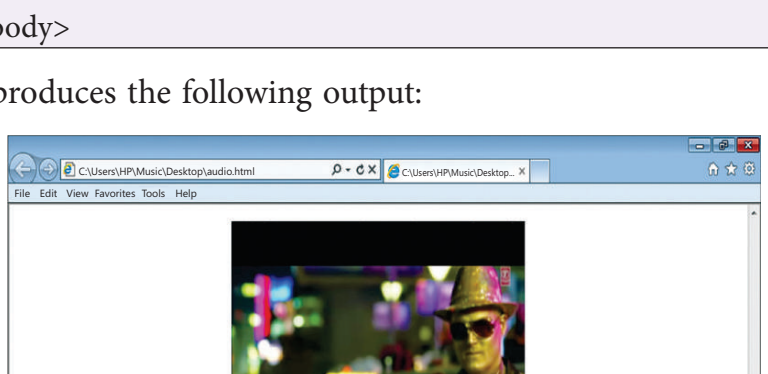
2.4.3. Inserting video

To make the webpage more interactive, you can insert a video in addition to sound in the webpage. The video may be in the form of a video clip, or a video movie. A video file is recognized by the extension .mp4 or .avi. use the following code to insert the video movie at one corner. If you want to place the player in the center of the webpage, you can use the center tag as shown below:

For example 12:

```
<body>
   <center>
    <embed height="250" width="320" src="movie.mp4">
    <br> <hr>
  </center>
</body>
```

The above code produces the following output:



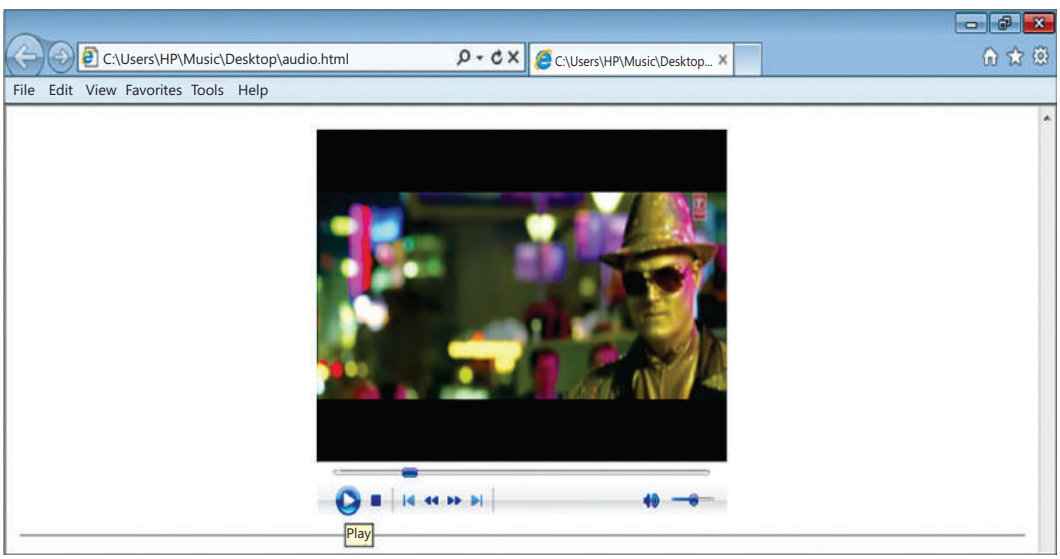
2.4.4 Inserting video using "control" attribute

The "control" attribute specifies that video controls should be displayed (such as a play/ pause button etc). Use the following code to insert the video movie in the webpage, you can use the "control: attribute with embed tag as shown below:

For example 12:

```
body>
<center>
<video controls>
<embed height="250" width="320" src="movie.mp4">
</video>
</center>
</body>
```

<The above code produces the following output:



2.4.5. Inserting video using "preload" attribute

This attribute was formerly known as "autobuffer" and it was an boolean attribute as "controls".

- **none** - do not buffer video file automatically.
- **metadata** - only buffer the metadata of video
- **auto** - buffer video file before it gets played.

Use the following code to insert the video movie in the webpage, you can use the "preload" attribute with embed tag as shown below:

For example 12:

```
<body>
<center>
<video controls preload=”none”>
<embed height=”250” width=”320” src=”movie.mp4”>
</video>
</center>
</body>
```

The above code produces the following output:



3. LINKING

You can add more than one page in your website. These additional pages are linked to the home page via a text or a picture. This linking is done using an anchor element in HTML.

3.1 Anchor Element: <a> …..

An anchor element is used to create a hyperlink in a webpage. The word anchor has come from the function performed by anchor in a ship. As an anchor supports the ship when it reaches the shore, similarly, the document linked supports the text or the picture on the homepage.

An anchor element consists of three parts.

1. The start tag <a> containing the attribute like href (mandatory), target (optional), name (optional)
2. The text or the image to be hyperlinked
3. The end tag .

The basic *syntax* of anchor tag is:

```
<a  href = "Address of the supporting web page"
target = "_blank or _top"
name = "text">
text acting as hyperlink
</a>
```

The attributes of anchor tag are *href, name* and *target*. Let us discuss them:

1. **HREF:** The meaning of **href** is hypertext reference. This attribute is mandatory in anchor tag. The **href** attribute takes the value as the address of the supporting document. Both the relative and the absolute links can act as values to the **href** attribute.

For Example 13:

```
<a href ="http://www.w3.org/">website of W3C</a>
```

To link to a page on another Web site you need to give the full web address. Such type of link is **absolute** as it specifies both the protocol name i.e. "http" and the hostname i.e. www.w3.org.

The **relative** link can only link to a page from the same site. If you were linking to a page in the same folder, the **href** would be just "page1.html" as shown below:.

```
<a href="page1.html">
```

2. **TARGET:** The target attribute helps in opening a web page. The value "_blank" opens the webpage in a new browser window. The value "_top" opens the linked webpage in the currently active browser window.

For example 14

If you want to open the webpage in a new window, following code is to be used.

```
<a href="http://www.google.com" target="_blank">Search Engine</a>
```

If you want to open the linked webpage in the same browser window as the current one, following code is to be used:

```
<html>
<body>
<p>Open the webpage in a the current window</p>
<a href="http:// www.google.com /" target="_top"> Want to Google! </a>
</body>
</html>
```

The above code will open the webpage of google on clicking the link "Want to Google" in the same browser window as the existing window. It will not open a new window to load the webpage of google.com

3. **NAME:** NAME attribute gives a name to the anchor tag. This attribute takes the value as "text string". This helps in linking to a specific section within the webpage that has been named.

For example 15:

If you have a long webpage with a section about "sales", this section can be given a name using name attribute as shown below. The purpose of the name is that *another anchor* can link to the named anchor.

```
<A name="salessection">Sales Order Set Up</A>
```

Linking to the named anchor:

To link to a named anchor, add a hash mark (#) to the end of the Uniform Resource Locator of the webpage followed by the name of the section, it will open.

For example 16:

To link to a section named "**salessection**" within the page called **namedexample.html**, the following code is used:

```
<A href="namedexample.html#salessection">Sales</A>
```

If the link is to a named anchor in the same webpage then you don't need the file name of the webpage, just the hash mark and the name of the anchor.

For example 17:

To link to the salessection in our existing webpage, the following code is to be used:

```
<A href="#salessection">Sales</A>
```

Please Note:

The named anchor itself doesn't have a hash mark	<A name="salessection">
A *link* to the named anchor *always* has a hash mark.	<A href="#salessection">

3.2 E-mail link

You can create an e-mail link on your page. The browser will read an e-mail link, using the value starting with "mailto:" rather than http://, with your e-mail address rather than a web address. The syntax is given below:

```
<A HREF="mailto:yourusername@emailaccountname.com">E-mail the username</A>
```

For Example 18:

You want to create an email link to yourself, then the code would be:

```
<A href=”mailto:myself@gmail.com”>E-mail to myself!</A>
```

When the user would click on the link **“E-mail to myself!”,** the mailbox of gmail will get opened with the address myself@gmail.com after the field “To” .

3.3 Image as a Link

The basic syntax to create an image link is:

```
<a href=”address of the file to be opened when you click on the image”>
<img src=“address of the image file” alt=”text to be displayed when image is not loaded”>
</a>
```

The attribute **src** in <img> tag takes the value of the address to the image whereas, **href** attribute takes the value of the address of the HTML document that will be loaded when you click on the image.

For example 19:

You want to open the website of Facebook when somebody click on the image that is called Facebook.jpg, then the code would be:

```
<a href= https://www.facebook.com/>
 <img src= “facebook.jpg””>
</a>
```



3.4. Colors of the link

You can set the color of text that acts as a link using <body> tag. The general syntax is:

```
<body link =”#hexadecimal code of the color or the nameofcolour”
vlink=”#hexadecimal code of the color or the nameofcolour “
alink=”#hexadecimal code of the color or the nameofcolour “>
```

In the above code, the link attribute in the <body> tag is a standard link. It is a text link that has not been clicked by the user, yet. It appears in its standard color i.e. blue whose hexadecimal code is 0000FF.

The vlink attribute in the <body> tag is a visited link. It is a text link that has been clicked by user at least once. The standard colour of this link is purple whose hexadecimal code is 800080.

The alink attribute in the <body> tag is an active link. It is a text link that may change its colour when the user brings the mouse over it. The standard colour of this link is red whose hexadecimal code is FF0000.

For example 20:

If you want to set the colour of the link to red, alink to green and vlink to pink as against their standard colours, use the following code:

```
<BODY link="red" alink="green" vlink="pink">
```

For example 21:

If you want to use a hexadecimal number for the above colours, following will be the code:

```
<body link="#FF0000" alink ="#04B45F" vlink ="#FF00FF" >
```



Note

The hexadecimal code of the colour can be seen from the website: http://html-color-codes.info/

Summary

- Lists provide the information in a structured and easy to read format. There are three types of lists : OL,UL & DL.
- UL tag classifies the data items that have equal importance i.e. none of the data items are ranked. They are identified by a symbol. It may be a □ square, a ○ circle or a ● disc.
- OL tag classifies the data items that do not have equal importance. The data items in a list are represented using numbers, the roman letter or alphabets. The default symbol is number.
- Definition lists (<dl>) are the list elements that have an array of tags. The other tags used with this are <dt> to define the definition term and the <dd> for the definition of the list item.
- The image in a web page is a drawing painted through paintbrush or a photograph taken through a digital camera or a clipart. There are 2 types of types of images: i) inline image ii) external image.
- The <embed> tag defines a container for external (non-HTML) content. They are sound effects, the video clips and moving pictures.
- An <a> (anchor) tag is used to create a hyperlink in a webpage. An anchor element consists of three parts : (1) href (mandatory), target (optional), name (optional), (2) the text or the image to be hyperlinked and (3) the end tag .
- An e-mail link can be created in a web page using mailto: attribute.

EXERCISE

A. Multiple Choice Questions:

1. What is the correct html command for inserting an image?
   (a) <image src="image.gif">
   (b) <img> image.gif</img>
   (c) <img src="image.gif">
   (d) <img href="image.gif>

2. Which one of the following is the list type that will create a bulleted list?
   (a) Unordered (b) Option
   (c) Decorated (d) Ordered

3. Which html tag is use to render text as italics?
   (a) (b)
   (c) <ital></ital> (d) Text style="italics"

4. We can view the source code of html in
   (a) Notepad (b) Power point
   (c) Excel (d) Paint

5. To wrap the text to the next line, the tag used for
   (a)
 (b) <P>
   (c) <I> (d) <LI>

B. Give one line code for the following

(a) To make "My School Web Page" as the title of a web page.

(b) To change the background color of a web page to blue.

(c) To insert a horizontal line of yellow color

(d) To insert an image pic1.jpg onto web page .

(e) To insert the list as given below:
   (i) SHIVANK
   (ii) SARTHAK
   (iii) SANYAM

C. From the list given below pick the correct answer:

BGCOLOR, HEAD, HTML, VLINK, P, FONT, SIZE, I

(a) This attribute defines the size of the text in the font element.

(b) This attribute changes the background color of a web page.

(c) This tag displays text in italic.

(d) This element identifies the document as an HTML document.

(e) This element defines the HTML header and does not affect the appearance of the document.

(f) This element is used to insert a line break with extra spaces in the starting.

(g) This element changes the color of the visited link.

(h) This element displays text or characters in a specific style and size.

D. Answer the following questions

Q.1. What is the difference between ordered list and unordered list?

Q.2. Distinguish between href and name attributes of <A> tag with the help of each.

Q.3. Define Definition term with the help of a suitable example

Q.4. Which three tags are used to create definition lists?

Q.5. Differentiate <BODY BACKGROUND> and <IMG> Tag.

Q.6. Your school's web address is www.littlebuds.com. You want to create a link to this web site from your web page. Write the HTML code you will use to do this.

Q.7. Difference between <A> as an anchor and <A> as a link

Q.8. Create an ordered list of the name of the subjects you study in school.

Q.9. Name and explain the various attributes of <UL> tag.

Q.10. How can we set the color of text that acts as a link in a web page? Explain with the help of an example.

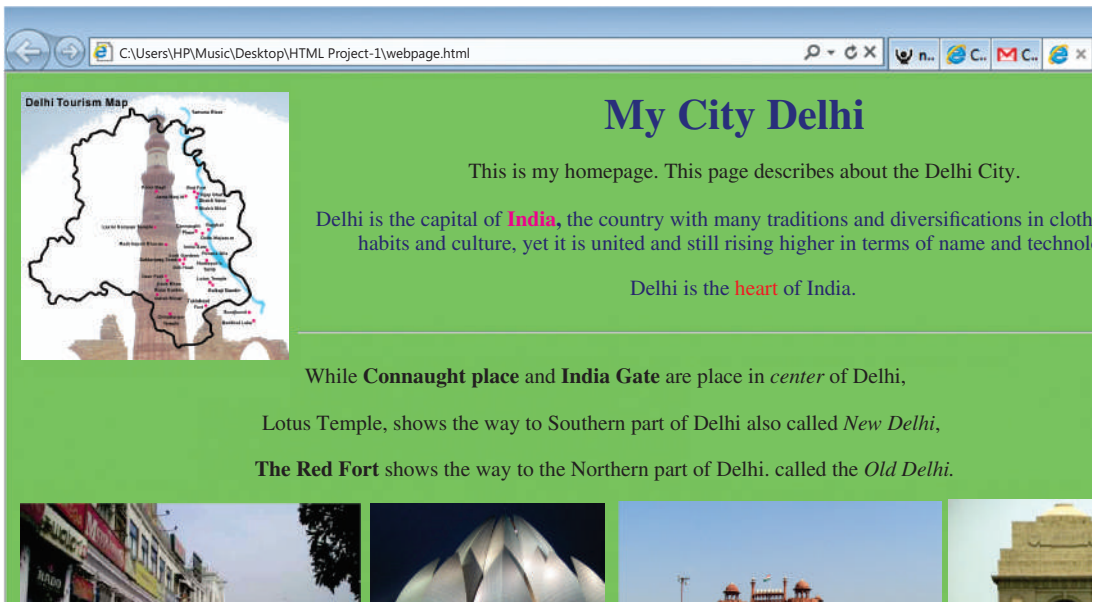
E. Lab Session

1. Shivank wants to make a list of vegetables in a web page. He has typed all vegetables name without any formatting. Suggest the type of list for his web page?
2. Write an HTML document to print name of your friends in an unordered format.
3. Create an unordered list of your hobbies.
4. Neha's parents wants to create a web page as an invitation for his Graduation Party and send this to all his friends. Can you help them in designing this invitation using the details given below:
   (a) Title as "Party".
   (b) Web page color as Yellow
   (c) Pic1.jpg as an image in the center of the page.
   (d) "lets Rock" as the heading below the image in red color
   (e) With 2 lines break place the text of size 12 and color BLUE

5. Create a website for Travel & Tourism company, which should include 3-4 webpages.
6. Create a homepage for your school website that includes the following:
   (a) Title
   (b) Image of school building
   (c) List of school activities
   (d) Video of School infrastructure
   (e) Photo gallery

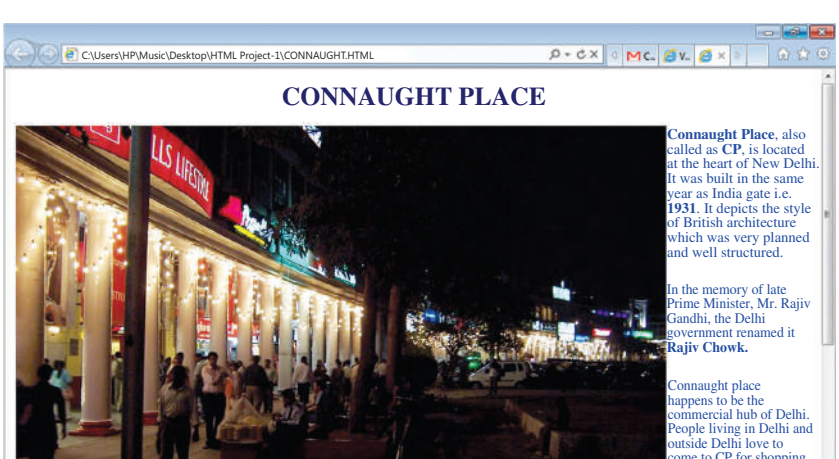
PROJECT IN HTML

Suppose we want to create the following website showing the various features of city Delhi, then we need a homepage (first page that gets loaded) and the additional pages that are linked to the homepage. The following figure shows the homepage prepared by the basic tags studies in the syllabus. This homepage is called webpage.html.



All the images except the first image (map of Delhi) are hyperlinks. That is, when the user places the cursor above the image, the image will display its name. On clicking the first image of Connaught place the file, Connaught.html gets loaded in a different window.Similarly, Lotus. html gets opened when the user clicks on image of lotus temple, redfort.html is loaded when the image redfort.jpg is clicked and Indiagate.html gets loaded in a different window when user clicks of Indiagate.jpg.

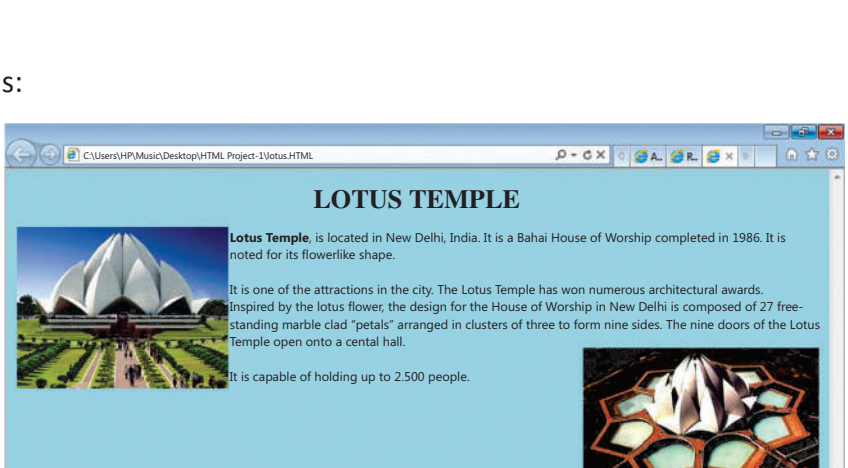
In order to prepare individual HTML files, insert the image using IMG tag and then type the text for each in paragraph tag. The individual HTML files are given below. While Connaught. html is:



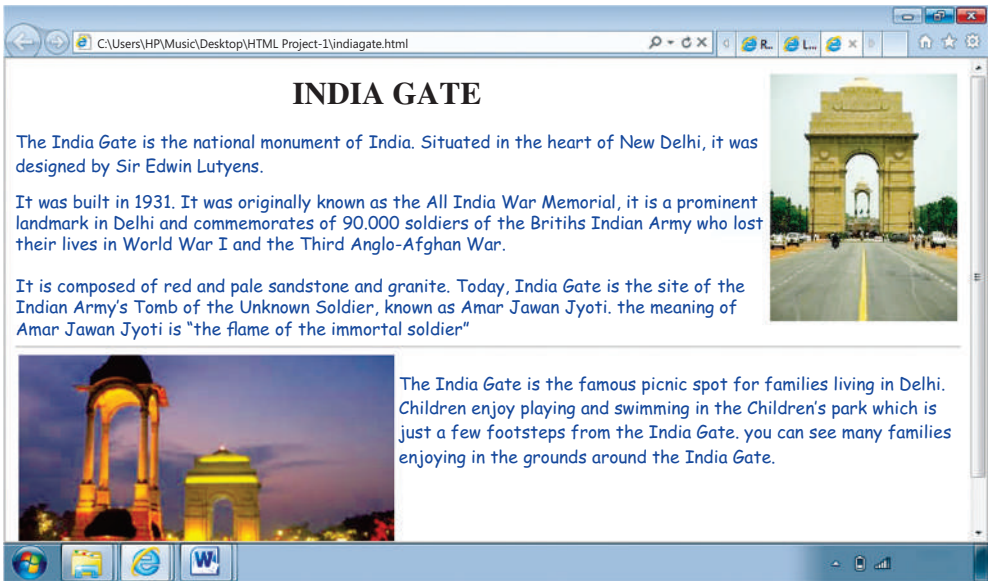
Redfort.html looks like:



The lotus.html is:



The indiagate.html is:



This project consists of a homepage and 4 linked pages, for sake of simplicity. The homepage has most of the images, the hyperlinks and the bulletted list, the use of empty tags like <br> and <hr>.

The additional pages may not contain the mixture of many tags if the project is small (as in the present case). For your convenience the the code of individual HTML documents are also provided:

Connaught.html

```
<html>
<head>
<title>About Connaught Place</title>
</head>
<body Text=”darkblue”>
<h1 align=”center”> CONNAUGHT PLACE </h1>
<font face=”arial”>
<img src=”connaughtnight.jpg” align=”left”>
<p><b>Connaught Place</b>, also called as <b>CP</b>, is located at the
heart of New Delhi.
It was built in the same year as India gate i.e. <b>1931</b>.
It depicts the style of British architecture which was very
planned and well structured.
<p>In the memory of late Prime Minister, Mr. Rajiv Gandhi,
the Delhi Government renamed it <b>Rajiv Chowk</b>. </p>
<p>
```

```
Connaught place happens to be the commercial hub of Delhi.
People living in Delhi and outside Delhi love to come to CP for
<i>shopping</i> and <i>entertainment</i>.
Be it anything from the restaurant, to the road side handicraft shop, to
a national or international bank,
you would find everything here, right from a grocery store to a car
showroom.
you can also find the offices of tours operators and airlines in India.
<p>
Markets and shops in Connaught place are structured in the <b>inner</b>
and <b>outer circle</b>.
Connaught place provides the best resource to shop with a number of options
available.
Connaught place is surrounded by Panchkula Marg, Kasturba Gandhi Marg, Baba
Khadak Singh Marg and Barakhamba Marg.
</body>
</html>
```

Lotus.html

```
<html>
<head>
<title>Lotus Temple</title>
</head>
<body bgcolor=”lightblue”>
<h1 align=”center”> LOTUS TEMPLE </h1>
<font face=”arial”>
<img src=”lotus.jpg” align=”left”>
<p><b>Lotus Temple</b>,
is located in New Delhi, India.
It is a Bahái House of Worship completed in 1986. It is noted for its
flowerlike shape.
<p>It is one of the attractions in the city.
The Lotus Temple has won numerous architectural awards.
<p>
Inspired by the lotus flower, the design for the House of Worship in New
Delhi is composed of 27 free-standing marble clad “petals” arranged in
clusters of three to form nine sides.
The nine doors of the Lotus Temple open onto a central hall.
<img src=”ariallotus.jpg” align=”right” alt=”Arial view of Lotus Temple”>
<p>It is capable of holding up to 2,500 people.

</body>
</html>
```

Redfort.html

```
<html>
<head>
<title>
Red Fort</title>
</head>
<body bgcolor=”pink” text=”Brown”>
<img src=”redfort.jpg” align=”left”>
<h1 align=”center”> RED FORT </h1>
<font face=”arial” size=”4”>
<p>The Red Fort also known as LalQila is a 17th century fort
constructed by the Mughal emperor, Shah Jahan
city of Delhi, India
that served as the residence of the Mughal Emperors.
The fort was the palace for Mughal Emperor Shah Jahan’s new capital,
Shahjahanabad, the seventh city in the Delhi site.
He moved his capital here from Agra in a move designed to bring
prestige to his reign.
<p>It served as the capital of the Mughals until 1857,
when Mughal emperor Bahadur Shah Zafar was exiled
by the British Indian government.
<p> The Red Fort derives its name from the extensive use of red sandstone
on the massive walls that surround the fort.
<p>Every year on 15 August, the Independence day of India from the
British,
Prime Minister hoists the national flag at the Red Fort, followed by a
nationally broadcast speech.
<p>The Red Fort is one of the most popular tourist destinations in Old
Delhi,
attracting thousands of visitors every year. Today, a sound and light show
describing Mughal history is a tourist attraction in the evenings.
<p>
 It also happens to be the largest monument in Old Delhi.

</font>
</body>
</html>
```

Indiagate.html

```
<html>
<head>
<title>
India Gate
</title>
</head>
<body>
<img src="indiagate.jpg" align="right">
<h1 align="center"> INDIA GATE</h1>
<font face="Comic Sans MS" color="DarkBlue">
<p>The India Gate is the national monument of India.
Situated in the heart of New Delhi,
it was designed by Sir Edwin Lutyens.
<p>It was built in 1931.
It was originally known as the All India War Memorial,
it is a prominent landmark in Delhi and commemorates the 90,000 soldiers
of the British Indian Army who lost their lives in World War I
and the Third Anglo-Afghan War.
<p>It is composed of red and pale sandstone and granite.
Today, India Gate is the site of the Indian Army's Tomb
of the Unknown Soldier, known as Amar JawanJyoti.
The meaning of Amar JawanJyoti is "the flame of the immortal soldier".
<hr>
<img src="indiagateatnight.jpg" width="40%" height="50%" align="left">
<p>The India Gate is the famous picnic spot for families living in
Delhi.
Children enjoy playing and swinging in the <a href="chidrenpark.html"
target="_blank">Children's park
</a>which is just a few footsteps from the India Gate.
You can see many families enjoying in the grounds around the India
Gate.

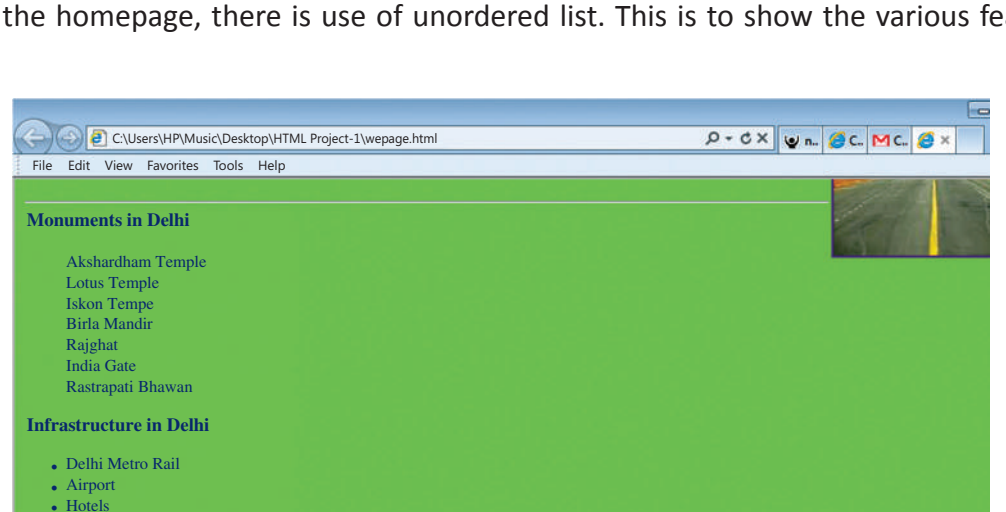
</body>
</html>
```

And the homepage named webpage.html is:

```
<html>
<head>
<title>Visit Delhi</title>
</head>
<body bgcolor=”lightgreen” text=”darkblue”>
<center>
<font face=”Bookman Old Style”>
<img src=”delhimap.jpg” align=”left”>
<h1 align=”center”> My City Delhi </h1></font>
<font size=”4”>
<p>This is my homepage.
This page describes about the Delhi City.
<p>Delhi is the capital of
<b><font color=”Magenta”> India </font></b>,
the country with many traditions
and diverisifications in clothing,
food habits and culture, yet
it is united and still rising higher in
terms of name and technology.</p>
<p>
Delhi is the <font color=”red”>heart </font> of India.
</p>
<hr>
<p><font color=”Black”>
While <b>Connaught place </b> and <b> India Gate </b>are place in <i>center</
i> of Delhi,</p>
<p><b>Lotus Temple</b>, shows the way to Southern part of Delhi also called
<i>New Delhi</i>,
<p><b>The Red Fort</b> shows the way to the Northern part of Delhi, called
the <i>Old Delhi</i>.
</font></p>
</center>
<a href=”indiagate.html” target=”_blank”><img src=”indiagate.jpg” align=”right”
alt=”The Indian Gate”></a>
<a href=”connaught.html” target=”_blank”><img src=”connaught.jpg” align=”left”
alt=”CP”></a>
<a href=”redfort.html” target=”_blank”><img src=”redfort3.jpg”align=”right”
alt=”LalQuila”></a>
<a href=”lotus.html” target=”_blank”><img src=”lotust.jpg” align=”left”
alt=”Lotus Temple”></a>
<br><br><br><br><br><br><br><br><br><br>
<hr>
<b> Monuments in Delhi</b>
```

```
<ul>
<li>Akshardham Temple</li>
<li>Lotus Temple</li>
<li>Iskon Temple </li>
<li>Birla Mandir</li>
<li>Rajghat</li>
<li>India Gate</li>
<li>RastrapatiBhawan</li>
</ul><b> Infrastructure in Delhi</b>
<ul>
<li>Delhi Metro Rail</li>
<li>Airport</li>
<li>Hotels</li>
</ul><b>Museums in Delhi</b>
<ul><li> International Dolls Museum</li>
<li>National Museum</li>
<li>National Railway Museum</li>
<li>National Science Center</li>
</ul>
</font>
</body>
</html>
```

Notice in the homepage, there is use of unordered list. This is to show the various features of Delhi.



The bottom portion of homepage is as under:

You can see that in the above homepage, everything is vertically aligned. This is due to the fact that important tags like table and frameset has not been used. These will be used in the syllabus next year. Hence, using the basic tags, a simple project can only be undertaken. Therefore, prepare the above project and implement your ideas to expand it further.

Chapter 6

Security Threats and Safety Measures



Learning Objectives

By the end of this chapter, learner will be able to:

- Name the different kinds of software licensing available
- Differentiate between freeware and open source software
- State how the use of shareware software is different from that of freeware software
- Differentiate between copyright and licensing
- Define cyberethics, cybersafety and cybersecurity
- State the purpose of cookies
- Tabulate the different phases of cyber ethics evolution
- List precautions that can be taken to ensure cyber safety
- Identify the different kinds of threats to cyber security
- State ethical behaviour to be followed as a cyber citizen
- Identify the different categories of cyber crime

INTRODUCTION



With the wide spread use of internet, networks and computers have become increasingly susceptible to threats. These threats destroy data as well the programs that computers use. The objective of these threats is to destroy the data and to steal the vital information stored in computers. This information is used by the attackers for their benefit. We occasionally hear about the data theft from credit card companies or banks, which lead to major financial losses. Also sometimes individual users are fooled in to giving their personal and sensitive information such as passwords or bank data leading to financial loss. This chapter shows various threats that computers and networks face.

1. VIRUSES

A computer virus is a program usually hidden within another simple program. It produces copies of itself and inserts them into other programs or files, in turn destroying the data and performing other malicious actions. Computer viruses are never naturally occurring; they are always man-made. Once created and released, however, their spread does not

remain directly under our control. While developing the viruses, programmers have specific target in mind such as data theft or destruction of software, which runs the computers. The virus can be transferred hidden in files, programs or even in disks. The viruses can be of different kind but a common virus is macro virus, which is discussed in detail here.

1.1 Macro Viruses

A simple macro is series of programming steps that are stored in a single location. Macro allows automation of many actions with only a single keystroke. These can be embedded in the program files. Many programs, such as Word and excel allow you to record a series of keystrokes and menu selections and then save them to a file. This helps eliminate doing the same action several times increasing efficiency. Macro viruses created with the intention of fooling the user can deceive them in sharing confidential information. This information can be used by the Macro to damage the computer data or software. The virus using macro files are most popular as they are:

- Easy to write.
- Can infect more people faster as they exchange documents and data frequently
- Can easily infect any computer capable of running Office and Internet

Macro viruses can corrupt data, create new files, move text, flash colors, insert pictures, send files across the Internet, and format hard drives. Macro viruses are increasingly used as transport mechanisms to drop off even nastier bugs. Macro viruses modify registries, forward copies of it through emails, look for passwords, copy documents, and infect other programs. Macro viruses can do a lot of different damage in a lot of different ways.

Example of macro Virus is Wazzo, W97M etc.

2. WORMS

Worms are very similar to viruses in the manner that they are computer programs that replicate copies of themselves (usually to other computer systems via network connections). Viruses often, but not always, contain some functionality that will interfere with the normal use of a computer or a program. Unlike viruses, however, worms exist as separate entities; they do not attach themselves to other files or programs. Because of their similarity to viruses, worms are also often referred to as viruses. Some examples of the worst Worms that impacted the web are as follows:

1. Jerusalem is one of the earliest worms that spread in 1987. It is also one of the most commonly known viruses. It used to delete files that were executed on each Friday the 13th. It was first detected in the city of Jerusalem.

2. In 1991, thousands of machines running MS-DOS were hit by a new worm, Michelangelo. The virus would overwrite the hard disk or change the master boot record of infected hosts.
3. In 2007 Storm Worm hit the computers. Once hit, your machine becomes part of a large botnet which performs automated tasks that range from gathering data on the host machine, to sending infected emails to others. About 1.2 billion emails were sent from the infected computers propagating infection.

Since Worms spread mostly through the email attachments, the best ways to avoid them is using caution in opening emails. If the email is from an unidentified source, it is always best to delete it. Most of the time worms attach themselves to email. Even the sender of email does not recognize what they have forwarded, as emails are sent automatically using all contact information in the user's profile.

3. TROJAN HORSES

A Trojan horse is a program that claims to rid your computer of viruses but instead introduces viruses into the system. Since they look like sincere programs they are referred as Trojan like the Trojan horse of Greek mythology. The Trojan program does not attach itself to the files like a virus nor replicate itself like a worm but it does provide unauthorized access to user's computer.

They are mostly spread through internet downloads and online gaming programs. They mostly affect the targeted computers. The trojan program prompts you to do the normal functions such as inputting your email address or profile name. You do so, not knowing that, you have provided access to the malicious software. This software is capable of taking over the functionality of your computer. An infected computer will begin to operate slowly and will exhibit pop-ups from time to time. Eventually the computer will cease to operate, or crash.

The best way to avoid the Trojans is to adopt safe download practices. If you are not sure of the website safety, then it is probably best not to download any program from that source.

An example of the Trojan horse was "I love you" which infected several computers in USA and Asia, completely damaging the data of millions of computers

4. SPYWARE

A Spyware as the name suggest is a program used to spy on the computer system. This program will try to get all the confidential and sensitive information such as your bank

account numbers, passwords etc. Then this confidential data is misused to access user's accounts. Spyware can also change the configuration of your computer, generally without obtaining your consent first.

There are a number of ways Spyware or other unwanted software can get on to computer. A common trick is to covertly install the software during the installation of other software that is being downloaded such as music or video or a file-sharing program.

Once installed, the Spyware monitors user activity on the Internet and transmits that information in the background to someone else. Spyware can also gather information about e-mail addresses and even passwords and credit card numbers.

SpyWare sends information back to the spy ware's home base via the user's Internet connection, thus it eats user's internet bandwidth. SpyWare applications running in the background can lead to system crashes or general system instability as they use memory and system resources of the user's computer.

SpyWare have the ability to monitor keystrokes, scan files on the hard drive, snoop other applications, such as chat programs or word processors. It also installs other SpyWare programs, read cookies, change the default home page on the Web browser. While doing so, it consistently relays this information back to the SpyWare author who will either sell the information to another party or use it for advertising/marketing purposes.

Some of the common Spywares are CoolWebSearch, Internet optimizer and Zango

5. MALWARE

Malware is short for "malicious software." Malware is any kind of unwanted software that is installed without your adequate consent. The intent of the malware is to damage the data or functionality of the computer or network. In fact all the threats mentioned above such as virus, Trojans etc are examples of Malware.

6. SPAMS

The term "spam" refers to unsolicited commercial email (UCE) or unsolicited bulk email (UBE). It is flooding the Internet with many copies of the same message, in an attempt to force the message on people who would not otherwise choose to receive it. It is also referred as junk email. Unsolicited email mostly contains advertisements for services or products. However most of the spams are from marketers or user who are trying to deceive the users. The most commonly seen spam includes the following:

- Phishing scams, a very popular and dangerous form of email fraud
- Foreign bank scams or advance fee fraud schemes
- Other "Get Rich Quick" or "Make Money Fast" (MMF) schemes
- Quack health products and remedies

Spam emails is not only unwanted, it clogs your email accounts and uses unnecessary server space. This creates burden on servers in the businesses. Since Internet is a public platform, it is never possible to completely stop the Spam email. However precaution can be taken while looking at an unknown email addresses. Most of the email hosts can identify such users and help filter them.

Spam costs the sender very little to send -- most of the costs are paid for by the recipient or the carriers rather than by the sender. It is because of these additional costs that most of the hosts are very keen that users use spam filters as well as report spams so they can be stopped.

7. HACKERS AND CRACKERS



Hackers and crackers are the software programmers who use dubious ways to get control over your computer and systems. The intent of both hackers and crackers is to gain control over your computer so that they can get the sensitive confidential information. They then use this information against you by stealing money, personal data, pictures, bank details and government military information, so on and so forth. This information can either be sold for money or hackers access account themselves to rob you directly. Originally hackers were the gifted programmers who gain access to the systems or network to show case the security loopholes to the administrators. Later the term cracker was coined for such activist who had intentions of doing malicious activities. Crackers have an end goal of destroying data and network for personal monetary gains.

8. ANTI VIRUS TOOLS

Anti Virus tools are the software programs that help us detect the virus in emails or files and hence protect our computers. These tools can detect virus, worms, Trojans as well as spyware and adware. They block us from visiting unsafe websites, and also downloading unsafe programs from such websites. They protect us from identity thefts and threats from phishing websites. There are several commercial antivirus softwares available such as Norton, Mcafee, K7, Quickheal etc.

9. DATA BACKUP AND SECURITY



As we discussed earlier, there are threats to the computers that are sometimes hard to avoid. Unknowingly we may open an email that may have virus attachments and can destroy all the program and data on our computer. That is why to protect ourselves from such unknown threat; we need to assure backing up the data. The basic principal on data back up is very simple, just make another copy of the data and keep it elsewhere than on the same computer. This guarantees that once the data on your computer gets corrupted due to a threat, you can reload the data again on your computer once it has been rectified. These days you have external hard drives which can back up data. Also most of the smart devices are also used to back up the data.

Before we discuss in detail how to use the security tools, here are some of the guiding principles to use the computers securely.

1. Using Security software such as Norton antivirus, Symantec etc.
2. Never share passwords
3. Beware of email attachments form unknown sources
4. Do not randomly download material from websites which has not been checked for security
5. Never propagate hoax or chain emails
6. Always logout your laptop or computer
7. Restrict remote access
8. Frequently back up important data and files
9. Use encryption or sites that use encrypted data

There are several security tools available which help us protect against all sorts of threats mentioned above. In brief, the tools are available for antispam, antivirus, firewalls, encryption tools, password managers and cleanup tools.

First Recorded Computer Crime

In 1820, Joseph-Marie Jacquard, a textile manufacturer in France, produced the loom. This device allowed the repetition of a series of steps in the weaving of special fabrics. This resulted in a fear amongst Jacquard's employees that their traditional employment and

livelihood were being threatened. They committed acts of sabotage to discourage Jacquard from further use of the new technology. This is the first recorded cyber crime!

Viruses

Case 1: Brain (in its first incarnation written in January 1986) is considered to be the first computer virus for the PC. The virus is also known as Lahore, Pakistani, Pakistani Brain, Brain-A and UIUC. The virus was written by two brothers, Basit and Amjad Farooq AM, who lived in Lahore, Pakistan. The brothers told TIME magazine they had written it to protect their medical software from piracy and was supposed to target copyright infringers only.

The virus came complete with the brothers' address and three phone numbers, and a message that told the user that their machine was infected and for inoculation the user should call them.

When the brothers began to receive a large number of phone calls from people in USA, Britain, and elsewhere, demanding them to disinfect their machines, the brothers were stunned and tried to explain to the outraged callers that their motivation had not been malicious.

They ended up having to get their phone lines cut off and regretted that they had revealed their contact details in the first place. The brothers are still in business in Pakistan as internet service providers in their company called Brain Limited.

Introduces or causes to be introduced any viruses or contaminant in that case, suit filed under Chapter IX of IT Act i.e. Section 43 as a Civil Wrongs under IT Act

Worms

Case 1: The 1988 Internet Worm was the first major worldwide computer security incident where **malware** (software that is malicious) propagated throughout the internet. This worm infected Unix servers, taking advantage of different types of vulnerability in installed code such as Sendmail and finger. The lessons from that incident are still valid and, surprisingly perhaps, the vulnerabilities identified that allowed the worm to cause such problems are still present in some modern software.

The perpetrator of the 1988 Internet worm (Robert Morris, a graduate student at Cornell University) meant no harm but was experimenting with what was possible. He is now a respected computer science researcher. Security authorities no longer accept such an excuse so you should not attempt any such security 'experiments'.

Case 2: Probably the world's most famous worm was the Internet worm let loose on the Internet by Robert Morris sometime in 1988. The Internet was, then, still in its developing years and this worm, which affected thousands of computers, almost brought its development to a complete halt. It took a team of experts almost three days to get rid of the worm and in the meantime many of the computers had to be disconnected from the network.

Trojan horses

Case 1: Hacker sentenced to 21 months jail in TKBot Trojan horse case, Sophos reports

An American hacker has been sent to jail after using a Trojan horse to break into innocent internet users' computers.

Raymond Paul Steigerwalt, from Indiana, has been sentenced to 21 months in jail for his involvement in an international hacking gang which broke into computers around the world, including PCs at the United States Department of Defense, with a Trojan horse.

Steigerwalt, 21, was a member of the international "Thr34t-Krew" hacking gang which launched a Trojan horse designed to break into internet-connected computers. TheTroj/TKBot-A Trojan horse (also known as the TKWorm) exploited a **vulnerability** that is found on some Microsoft IIS web servers.

At least two computers belonging to the Department of Defense were infected and damaged by the malicious code. Between October 2002 and 7 March 2003, Steigerwalt and other members of the Thr34t-Krew gang were able to remotely control infected computers without the knowledge of the computers' owners.

Steigerwalt, who pleaded guilty to the charges, has been ordered to pay $12,000 to the Department of Defense for damage caused by the Trojan horse

Case 2: A young lady reporter was working on an article about online relationships. The article focused on how people can easily find friendship and even love on the Internet. During the course of her research she made a lot of online friends. One of these 'friends' managed to infect her computer with a Trojan.

This young lady stayed in a small one bedroom apartment and her computer was located in one corner of her bedroom. Unknown to her, the Trojan would activate her web camera and microphone even when the Internet was switched off. An year later she realized that hundreds of her pictures were posted on pornographic sites around the world!

Spyware

'Loverspy' Spyware Creator Now Most Wanted Internet Criminal on FBI's List

Carlos Enrique Perez-Melara, an ex-student of certain San Diego-situated college, was lately listed on Federal Bureau of Investigation's (FBI) list of Internet criminals, who were most wanted, because he had created "Loverspy" one notorious spyware also called "Email PI," published theverge.com dated November 7, 2013.

Perez-Melara, aged 33, had developed the malware valuing $89 such that it would catch a person who acted deceitfully while pretending to love. It dispatched one e-greeting card to the suspected deceiver which if viewed would plant one especially harmful Trojan capable of seizing e-mail ids, keystrokes, IM (instant messages) as well as movie from the victim's web-based camera. Following the Trojan's planting, the contaminated PC fully came under the control of the hacker.

Spams

Sanford Wallace, 43, also known as "Spamford Wallace" and "David Frederix", was arrested in Las Vegas on Thursday. Wallace is accused of hacking into 500,000 accounts to harvest friend lists between November 2008 and March 2009. He allegedly used the compromised lists to make more than 27 million unsolicited postings on Facebook walls that appeared to come from friends.

If targets clicked on links within the messages, they were presented with a website designed to fool them into handing over their full name, email address and password, prosecutors said. Finally they would be redirected to affiliate websites that would allegedly pay Wallace "substantial revenue" for traffic.

The scheme relied on vulnerabilities that Wallace discovered in Facebook's spam filters, according to the indictment.

"To accomplish his scheme, Wallace first tested his spamming capabilities between two Facebook accounts," it said.

"[He] used a fake Facebook account of 'David Frederix' and his legitimate 'Sanford Masterwb Wallace' account to test variations of spam messages in order to evade Facebook's filtering mechanisms.

"Once Wallace evaded Facebook's spam filters he employed an automatic scripting process to sign into a compromised Facebook user's account, retrieve a list of all the user's friends, and then post a spam message to each of the user's friend's Facebook walls."

Wallace is now indicted on a total of 11 charges of fraud, intentional damage to a protected computer, and criminal contempt.

The contempt charges relate to an earlier **civil case brought against Wallace by Facebook itself**.

A federal judge awarded the dominant social network $711m in damages in October 2009. The firm did not expect Wallace to pay, but the judge also ordered him not to log in to Facebook. According to Thursday's indictment he "wilfully and knowingly" breached that order.

Wallace, who first gained notoriety as a spammer in the 1990s and also lost a civil case brought against him by MySpace in 2008, was released on $100,000 bail. He faces up to three years in jail and a $250,000 fine for each of the six fraud charges and up to 10 years in jail for each of the three charges of intentional damage to a protected computer.

Facebook welcomed the arrest.

"We applaud the efforts of the US Attorney's Office and the FBI to bring spammers to justice,"

"Two years ago, Facebook sued Wallace and a federal court ordered him to pay a $711 million judgment for sending unwanted messages and wall posts to people on Facebook. Now Wallace also faces serious jail time for this illegal conduct."

Hackers and Crackers

An engineering dropout and global hacker, is in the CBI net. He is part of a global network of hackers and was arrested from Pune following a tip-off from the FBI. He was flown to New Delhi in the evening.

This is for the first time that a global network of cyber hackers has been traced to India. Investigating agencies of China, Romania and the United States collaborated with the CBI to pounce upon the 32-year-old professional hacker who, a source said, had compromised more than 1,000 internet accounts around the world.

The CBI claims that his hacking syndicate has been active in India since 2011, and that he has confessed to hacking 950 foreign email accounts besides 171 in India. He was arrested from his house in Pune and taken to New Delhi on a transit-remand for further questioning.

The CBI tracked him down after the FBI passed on information on the global network of cyber hackers. Simultaneous raids were conducted in Mumbai and Ghaziabad.

This is not the first time he has been arrested. In 2003, he was arrested by the Mumbai police for defrauding a Mumbai-based credit card processing company of nearly Rs9 lakh when he was only 21 and pursuing a degree in engineering in Pune. At that time, he was operating a website designing services start-up www.mafiaz.com. During investigation, police found several fictitious names of clients and bank account numbers in his computer.

"Though he has claimed to have hacked into the email accounts of over 900 people globally, the kind of clientele whom he was serving is still to be established. From identify theft to corporate rivalry, he was serving all types of clients," a CBI officer said. But he hacked only email accounts and not bank accounts.

CBI claimed that he was operating through two websites — www.hirehacker.net and www.anonymity.com — and was charging between $250-500 for his service. He was paid via Western Union money transfer and Paypal. He used to send the money to his father and girlfriend.

"As part of an international law enforcement operation, the CBI has registered two cases against suspected operators of hacking websites. Similar operations are being conducted in Romania, China and the US. It is suspected that the number of email accounts hacked may be much larger once the data is collected and the accused are interrogated," a CBI officer said.

The hacker's clientele included jilted lovers and corporate entities. After registering the cases, the CBI carried out searches in two locations in Mumbai and one each in Pune and Ghaziabad for violations of various sections of the IT Act and section 379 of the IPC.

Sections applicable in hacking

Hacking is punishable under section 66 read with section 43 of the Information Technology Act, 2000.

Punishment/Fine

The person can be punished with up to three years imprisonment or fine up to Rs5 lakh or both.

***Name of hacker Hidden purposefully

Summary of Sections Applicable for Cyber Crimes

Cyber Crime ITAA 2008 Act Section's -IPC Section's

Email spoofing 66D- 416,417,463,465,419

Hacking 66,43-378,379,405,406

Web-jacking 65 -383

Virus attacks 43,66

Logic bombs 43,66

Salami attacks 66

Denial of Service attacks 43

Email bombing 66

Pornography & Child Pornography 67, 67B -292,293,294

Bogus websites, cyber frauds 420

Forgery of electronic records 463, 465, 470, 471

Sending defamatory messages by email 66A- 499, 500

Sending threatening messages by email 66A -503, 506

Financial Crime 415,384,506,511

Cyber Terrorism 66F -153A, UAPA 15-22

Identity Theft 66C-417A, 419A

Website Defacement 65 -463,464,468,469

Summary

- A computer virus is a program usually hidden within another simple program.
- Macro viruses created with the intention of fooling the user can deceive them in sharing confidential information.
- Worms are very similar to viruses in the manner that they are computer programs that replicate copies of themselves.
- A Trojan horse is a program that claims to rid your computer of viruses but instead introduces viruses into the system.
- A Spyware is a program used to spy on the computer system to get all the confidential and sensitive information such as your bank account numbers, passwords etc.
- Malware is any kind of unwanted software that is installed without your adequate consent.
- Spam emails is not only unwanted, it clogs your email accounts and uses unnecessary server space. It is also referred as junk email.
- Hackers were the gifted programmers who gain access to the systems or network to show case the security loop holes to the administrators.
- Cracker was coined for such activist who had intentions of doing malicious activities.

EXERCISE

A. Multiple Choice Questions

1. Which of the following is an anti-virus program
   (a) Norton (b) Quick heal
   (c) K7 (d) All of these

2. All of the following are examples of real security and privacy threats except:
   (a) Hackers (b) Spam
   (c) Virus (d) Worm

3. Trojan horses are very similar to virus in the matter that they are computer programs that replicate copies of themselves.
   (a) True (b) False

4. _____ monitors user activity on internet and transmit that information in the background to someone else.
   (a) Malware (b) Adware
   (c) Spyware (d) None of these

5. Viruses are _____.
   (a) Man made (b) Naturally occur
   (c) Machine made (d) All of the above

6. Firewall is a type of _____.
   (a) Virus (b) Worm
   (c) Security threat (d) None of the above

7. Unsolicited commercial email is known as _____.
   (a) Spam (b) Virus
   (c) Malware (d) Spyware

B. Match the following

(1) Virus	(a) "Get Rich Quick" Scheme
(2) Worm	(b) Cool Web Search
(3) Trojan Horse	(c) I Love You
(4) Spyware	(d) Jerusalem
(5) Spam	(e) Wazzo

C. Answer the following questions:

Q.1. While working on the computer, you notice that the system is working very slowly, files are corrupted, default home page on the web browser has changed, lot memory is consumed, and unnecessary pop-ups are coming. What can be the probable reason?

Q.2. You have very important data on your computer. How will you ensure that this data remains safe?

Q.3. Differentiate between virus, worms and Trojan horses.

Q.4. How is a hacker different from a cracker?

D. Lab Session

- Search the internet for various new viruses and worms that surfaced in last year.
- Research various email spams that are sent out these days. How many of these have you seen which are related to banks? Please visit bank websites and identify if they have messages about spams.
- Make a list of security tools available for your computer by researching on the internet and t ell what all threats they protect you from.
- Make a list of different anti-virus programs available today, along with their pricing and protection features.
- Scan your system to find out different security threats infecting your computer.
- Do a survey and find out how many people are comfortable making payments online. If they are not, find reasons for the same. Also suggest them the ways to make online payments safe.



Chapter 7
Project

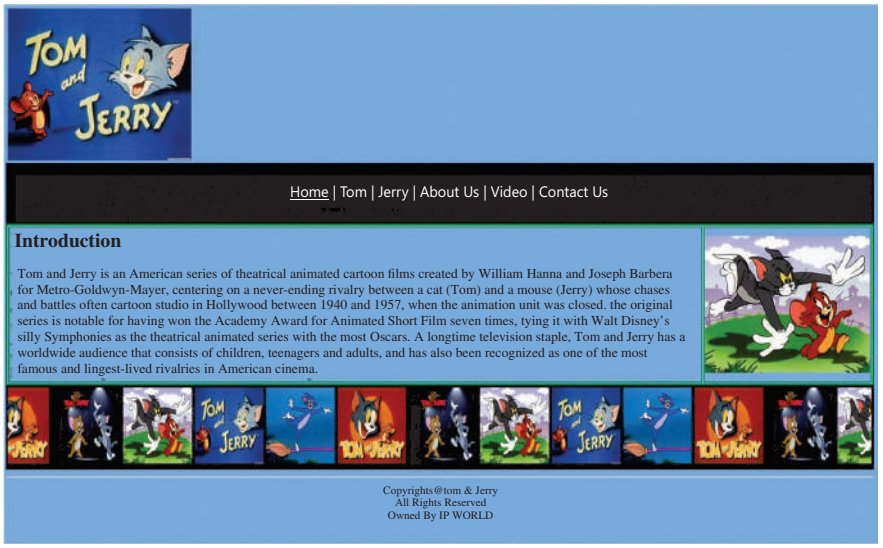
Once you have understood all the tags of HTML and the basics of GIMP, you are ready to make web applications. The following specifications must be considered while developing a web site:

1. Identify the problem.
2. Once you have analyzed the problem, you will have a clear idea about the web pages to be created.
3. When designing your site, pay attention to layout, typography and images.
4. Always use standard Font styles in your web site so that all the browsers should support them.
5. Site should exhibit strong design, user-friendly navigation, clear and consistent layout, and professional appearance.
6. Your site should exhibit proper use of background and font colours.
7. Website must include at least one image , it can be a scanned photo, a digital photograph, or a graphic/artwork created by you.
8. You may use other images, but they must not violate copyright laws.
9. All images must have alt tags, be well placed, and working correctly.
10. Each page must have an appropriate title.
11. Each page must have a consistent navigation menu containing functional links to all other main pages
12. Visit every page and check to make sure all links work correctly.
13. Test your site behaviour across multiple browsers (e.g. Internet Explorer, Firefox, Safari, etc.) and different operating systems (e.g. Windows, iOS).

After following all the instruction now you are ready to publish your website on web server.

SAMPLE CASE STUDIES

1. Develop a website of your favourite cartoon character. The Home page should consists of the information of the character. It should also offer link to other web pages and each of these web pages should contain a link to home page and to the various html pages required in your site. Use Gimp software to give various effects to the images to be included in the website.




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Tom | Jerry | About Us | <a href="3.htm" >Video</a> | <a href="2.htm">Contact Us</
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Tom and Jerry is an American series of theatrical animated cartoon films created by William Hanna and Joseph Barbera for Metro-Goldwyn-Mayer, entering on a never-ending rivalry between a cat (Tom) and a mouse (Jerry) whose chases and battles often involved comic violence. Hanna and Barbera ultimately wrote and directed one hundred and fourteen Tom and Jerry shorts at the MGM cartoon studio in Hollywood between 1940 and 1957,

when the animation unit was closed. The original series is notable for having won the Academy Award for Animated Short Film seven times, tying it with Walt Disney's Silly Symphonies as the theatrical animated series with the most Oscars. A longtime television staple, Tom and Jerry has a worldwide audience that consists of children, teenagers and adults, and has also been recognized as one of the most famous and

longest-lived rivalries in American cinema.

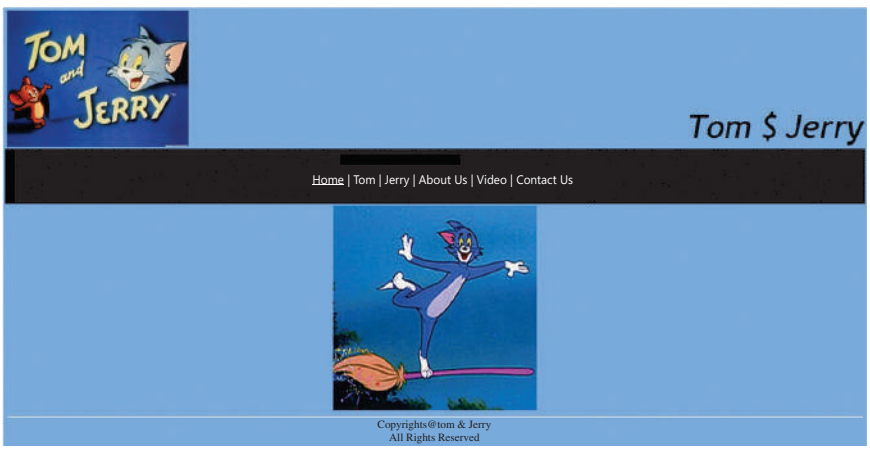
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<hr = 2> Copyrights © Tom & Jerry
All Rights Reserved
Owned By IP WORLD

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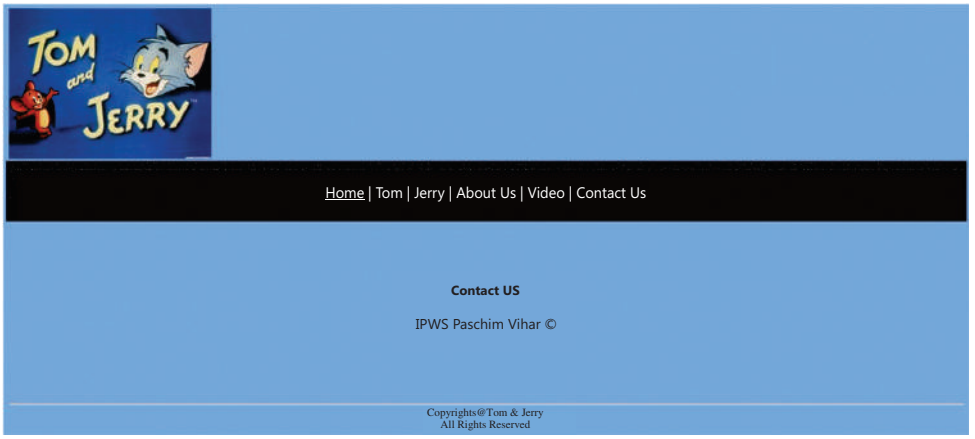
Tom $ Jerry

Home | Tom | Jerry | About Us | Video | Contact Us

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All Rights Reserved

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Home | Tom | Jerry | About Us | Video | Contact Us </td></tr></table>

 Contact Us

IPWS Paschim Vihar ©

<hr = 2>Copyrights © Tom & Jerry
All Rights Reserved

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2. Develop a website of any personality related to the Bollywood music of your choice. The Home page should consist of the information of the person. It should also offer link to the other web pages containing his contribution to the industry and each of these web pages should contain a link to home page and to the various html pages required in your site.Use Gimp software to give various effects to the images to be included in the website.



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<b><i>

<img src=9.jpg height=50 width=80> The Legendary Kishor Kumar

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<h2>Introduction</h2>

Kishore Kumar (4 August 1929 – 13 October 1987), born Abhas Kumar Ganguly was a popular Indian film playback singer. He is also known as an actor, lyricist, composer, producer, director, screenwriter and scriptwriter. Kishore Kumar sang in many Indian languages including Bengali, Hindi, Marathi, Assamese, Gujarati, Kannada, Bhojpuri, Malayalam and Oriya. He won 8 Filmfare Awards for Best Male Playback Singer and holds the record for most number of Filmfare Awards won in that category. He was awarded the "Lata Mangeshkar Award" by the Madhya Pradesh government and from that year onwards, the Madhya Pradesh Government initiated a new award called the "Kishore Kumar Award" for contributions to Hindi cinema.

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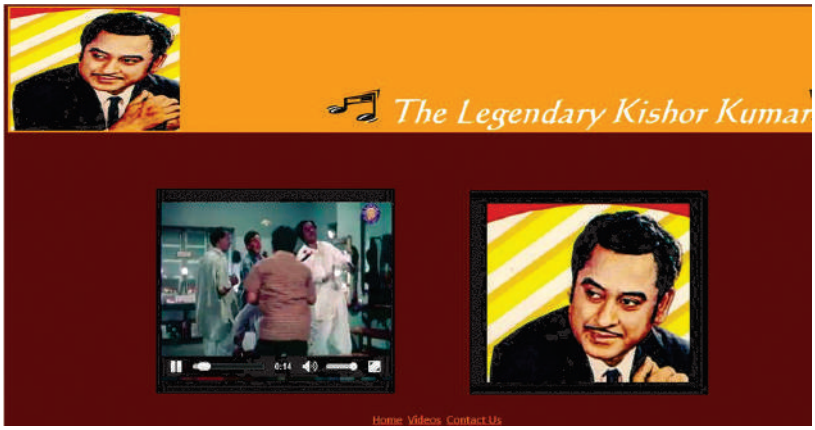
After Ashok Kumar became a big star in Hindi films, the Ganguly family used to visit Bombay regularly. Kishore Kumar's first film as an actor was Shikari (1946), in which Ashok Kumar played the lead role. Music director Khemchand Prakash gave Kishore Kumar a chance to sing "Marne ki duayen kyon mangu" for the film Ziddi (1948). After this, Kishore Kumar got many other assignments, but he was not very serious about a film career. In 1949, he decided to settle in Mumbai.Kishore Kumar played hero in the Bombay Talkies film Andolan (1951), directed by Phani Majumdar. Although Kishore Kumar got some assignments as an actor with help of his brother, he was more interested in becoming a singer.

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Home|Videos|Contact Us </td></tr></table>

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3. Create a Website for the food point displaying information about nutritious food items. The Home page should consist of the information of the food items available in the food point. It should also offer link to the other web pages and each of these web pages should contain a link to home page and to the various html pages required in your site. Use Gimp software to give various effects to the images to be included in the website.

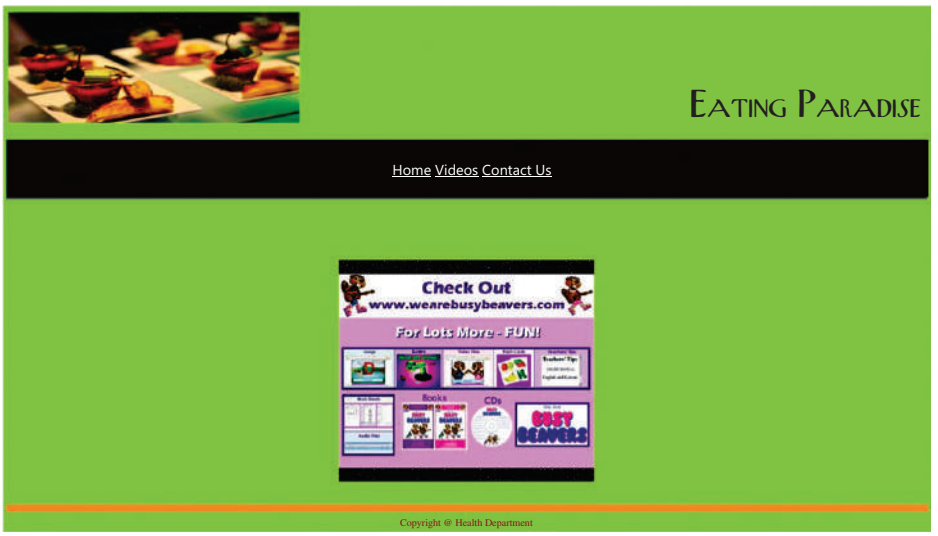


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contains essential nutrients, such as carbohydrates, fats, proteins, vitamins, or minerals.
The substance is ingested by an organism and assimilated by the organism’s cells in an
effort to produce energy, maintain life, or stimulate growth. Historically, people secured
food through two methods: hunting and gathering, and agriculture. Today, most of the
food energy consumed by the world population is supplied by the food industry.</font>
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generally is used to describe foods that are considered to be beneficial to health, beyond
a normal healthy diet required for human nutrition. However, the term is not precisely
defined by national regulatory agencies such as the U.S. Food and Drug Administration.
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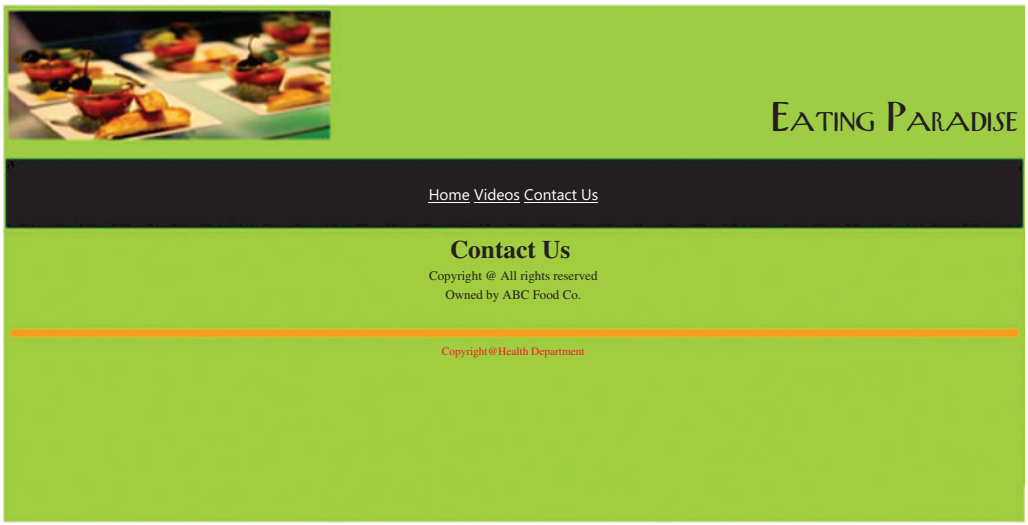
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<br><br><br><br><center><font face="bahaus 93" size=6 color=#000000><b>Contact Us</b></font>c <font face="bahaus 93" size=4 color="black"><br>Copyright &copy; All rights reserved<br>Owned by ABC Food Co.</center><br><hr size=10 width=100% color=#fcac28><center><font face="trebuchet ms" size=2 color=#ff0000><b>Copyright &copy; Health Department </b></font></center>
    </body>
</html>
```

4. Create a website depicting different festivals of India. The Home page should have links of all festivals of India . It should also offer link to the other web pages and each of these web pages should contain a link to home page and to the various html pages required in your site. Use Gimp software to give various effects to the images to be included in the website.



<html>

<head>

<title></title></head>

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<img src = “r.gif” height = 50 width = 35% border = 2><p align = “right”><u> Festivals Of India </u>

<p align = “center”> Home | Contact Us | Types of Festivals | Feedback

<hr>

Photo Gallery

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<img src = “i.jpg” height = 100 width = 100>
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<p align = “center”> Live the Moments .....
   <u>Some Famous Festivals</u>:

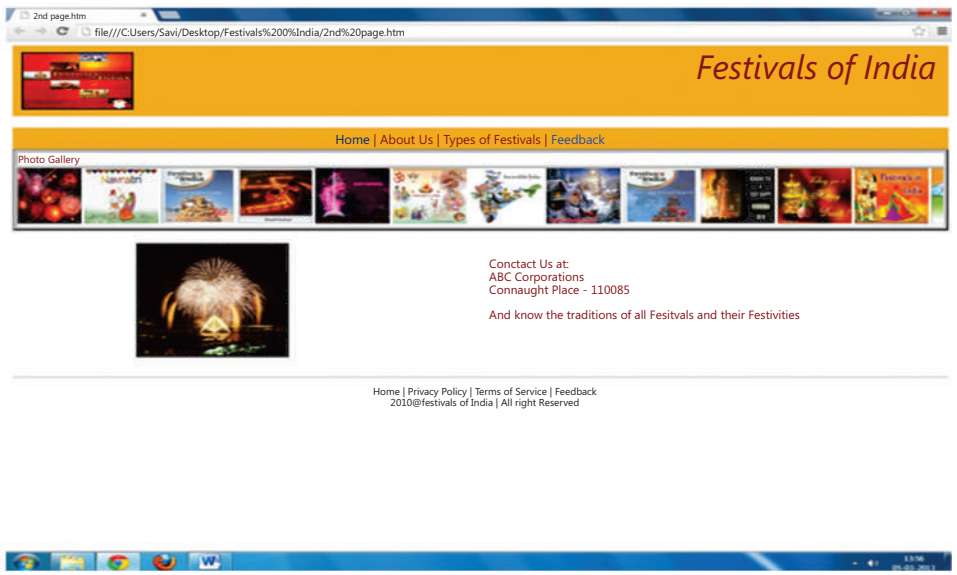
 Diwali
 Dusshera
 Holi
 Eid
 Christmas
 Pongal
 Oman
 Raksha Bandhan
 Janamashtmi
 Navratri
 Maha Shivratri
 Ram Navami

<p align=”center”><img src = “a.jpg” height = 250 width = 250 border = 3>

<p align = “justify”>Indian Festivals celebrated by varied cultures and through their special rituals add to the colours of Indian Heritage. Some festivals welcome the seasons of the year, the harvest, the rains, or the full moon. Others celebrate religious occasions, the birthdays of divine beings, saints, and gurus (revered teachers), or the advent of the New Year. A number of these festivals are common to most parts of India, however they are celebrated differently in different parts of the country.....

</body>

</html>



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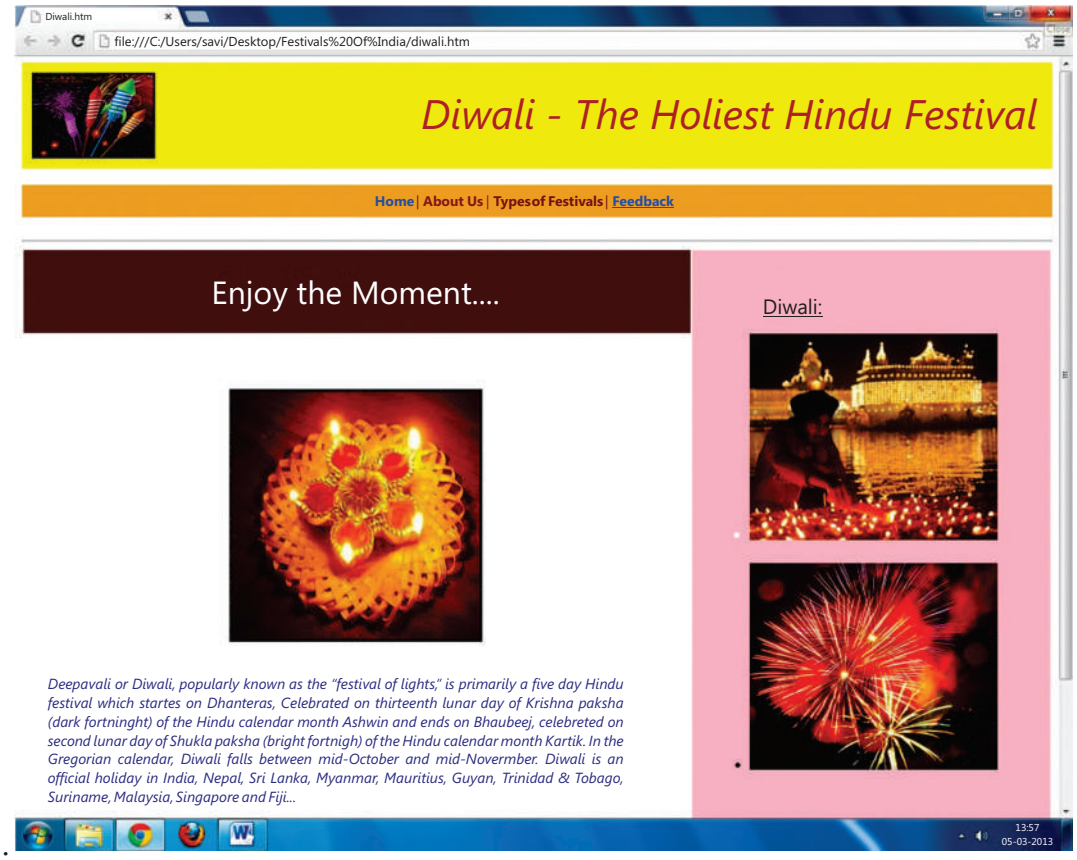
<p align = “right”>Festivals Of India

<p align = “center”> Home | About Us | Types of Festivals | Feedback</td></tr></table>

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<font face = "trebuchet ms" color = "maroon" size = 4><align = "right">
Contact Us at : <br>
ABC Corporations <br>
Connaught Place - 110085 <br>
And know the traditions of all Festivals and their Festivities
</font>
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<hr><p align=”center”>
Home | Privacy Policy | Terms of Service | Feedback
2010 &copy Festivals Of India | All Rights Reserved

</body>
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<table width = 100% height = 35 bgcolor = “#F2AC28”><tr><td width = 100% height = 35 valign = “middle”><p align

= “center”> Home | About Us | Types of Festivals | Feedback</td></tr></table>

<hr>

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<td width = 35% height = 100% bgcolor = “Pink” rowspan = 2>

   <u>Diwali</u>:

<img src=”Diwali 2.jpg” height=250 width=300>

<img src=”Diwali 4.jpg” height = 250 width = 300>

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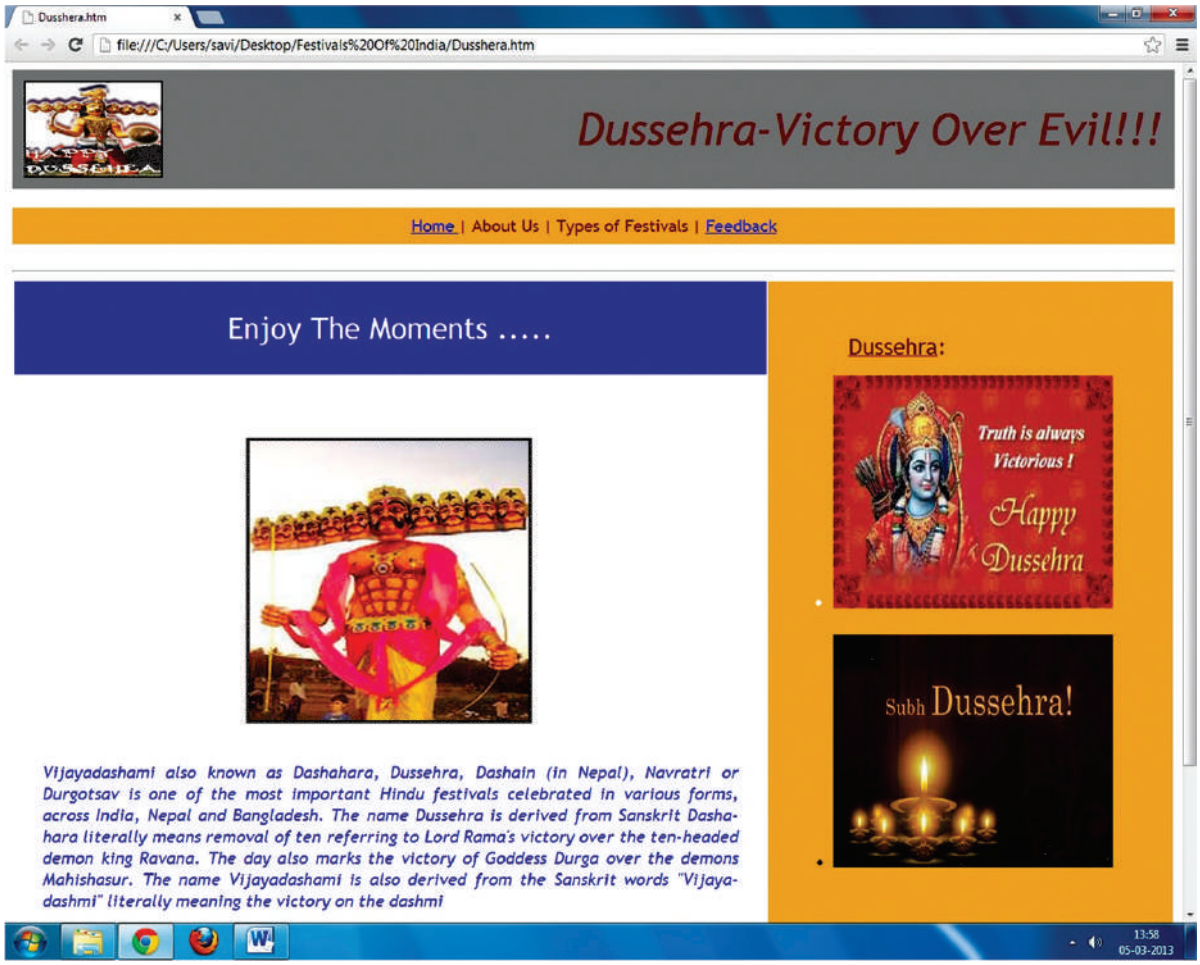
<p align = “justify”>Deepavali or Diwali, popularly known as the “festival of lights,” is primarily a five day Hindu festival which starts on Dhanteras, celebrated on thirteenth lunar day of Krishna paksha (dark fortnight) of the Hindu calendar month Ashwin and ends on Bhaubeej, celebrated on second lunar day of Shukla paksha (bright fortnight) of the Hindu calendar month Kartik. In the Gregorian calendar, Diwali falls between mid-October and mid-November. Diwali is an official holiday in India, Nepal, Sri Lanka, Myanmar, Mauritius, Guyana, Trinidad & Tobago, Suriname, Malaysia, Singapore and Fiji..

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<table width = 100% height = 35 bgcolor = “#F2AC28”><tr><td width = 100% height = 35 valign = “middle”><p align = “center”> Home | About Us | Types of Festivals | Feedback</td></tr></table>

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   <u>Dussehra</u>:

<img src=”Dusshera 2.jpg” height=250 width=300>

<img src=”Dusshera 3.jpg” height = 250 width = 300>

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<tr><td height=100 valign=”top”>
<p align=”center”><img src = “Dusshera 1.jpg” height = 300 width = 300 border = 3>

<p align = “justify”>Vijayadashami also known as Dashahara, Dussehra, Dashain (in Nepal), Navratri or Durgotsav is one of the most important Hindu festivals celebrated in various forms, across India, Nepal and Bangladesh.

The name Dussehra is derived from Sanskrit Dasha-hara literally means removal of ten referring to Lord Rama’s victory over the ten-headed demon king Ravana. The day also marks the victory of Goddess Durga over the demons Mahishasur. The name Vijayadashami is also derived from the Sanskrit words “Vijaya-dashmi” literally meaning the victory on the dashmi

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<p align = “right”>Holi - The Festival Of Colors

<p align = “center”> Home | About Us | Types of Festivals | Feedback

<hr>

<p align = “center”> Enjoy The Moments .....

   <u>Holi</u>:

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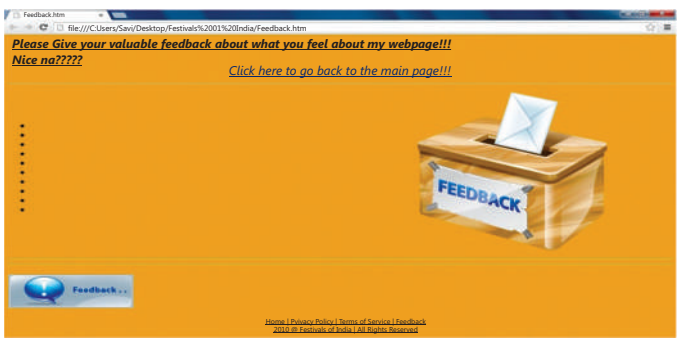
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<p align=”center”><img src = “Holi 4.jpg” height = 300 width = 300 border = 3>

<p align = “justify”>Holi is a religious spring festival celebrated by Hindus, as a festival of colours. It is primarily observed in India and Nepal. It is observed by the minority Hindus in Bangladesh and Pakistan as well in countries with large Indic diaspora populations following Hinduism, such as Suriname, Malaysia, Guyana, South Africa, Trinidad and Tobago, the United Kingdom, the United States, Mauritius, and Fiji. It is also known as Phagwah and Festival of Colours, or as Doajatra in Odisha and Dol Jatra or Basantotsav in West Bengal and Assam..

</body>

</html>



<html><head><title></title></head>

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<u>Please Give your valuable feedback about what you feel abour my webpage!!!
Nice na?????

Click here to go back to the main page!!!

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Home | Privacy Policy | Terms of Service | Feedback <br>
2010 &copy Festivals Of India | All Rights Reserved<br>
</font>
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