HTML HANDBOOK

By

CODESHAM

1958: The USA Department of Defense established the Advanced Research Projects Agency (APRA) to ensure that the USA was a leader in military science and technology, including communication projects

1960s: Research in USA on establishments of computer networks for sharing military information resulting in the establishment of ARPANET in 1967

1967: National Physical Laboratory (NPL) in England developed the NPL network

1970: First cross country link installed between computers in USA

1971: Ray Tomlinson invented email program to send messages across a distributed network

1972: Improvements made to email - @ sign introduced

1973: Introduced first international connections to ARPANET from London via Norway ftp (file transfer protocol), a method of transferring files between Internet sites

1974: Established first ARPANET mailing list

1975: Established satellite links across two oceans (to Hawaii and UK)

1970s: By mid 1970s Australian universities were creating networks – files exchanged between computers at University of Melbourne and University of Wollongong

1981: BITNET network between USA universities established as well as more networks developed in Europe

1983: European Academic and Research Network (EARN) established

1984: Domain Name system introduced

1987: Email link established between Germany and China

1989: AARNET - Australian Academic Research Network - set up by Australian Vice Chancellors Committee and CSIRO

First link between Australia and NSFNET via Hawaii on 23 June

1990: Archie was released – Archie created (archived) lists of ftp sites on the Internet

The World comes on-line (world.std.com) became the first commercial provider of Internet dialup access

1991: Gopher released – created a collection of menus of sites on the Internet

World Wide Web (WWW) released – the protocol developed by Tim Berners-Lee and others in Europe was based on hypertext

1992: Now more than 1,000,000 hosts on the Internet

Veronica, a gopher-space search tool, was released – Veronica sites produced searchable menus of gopher menus

World Bank came on-line

The term "surfing the Internet" was first used

Mosaic – a graphical browser – was introduced (a forerunner of Netscape)

Businesses and media began to take notice of the Internet

1994: The first banner ads appeared

Mosaic Netscape released which became Netscape Navigator

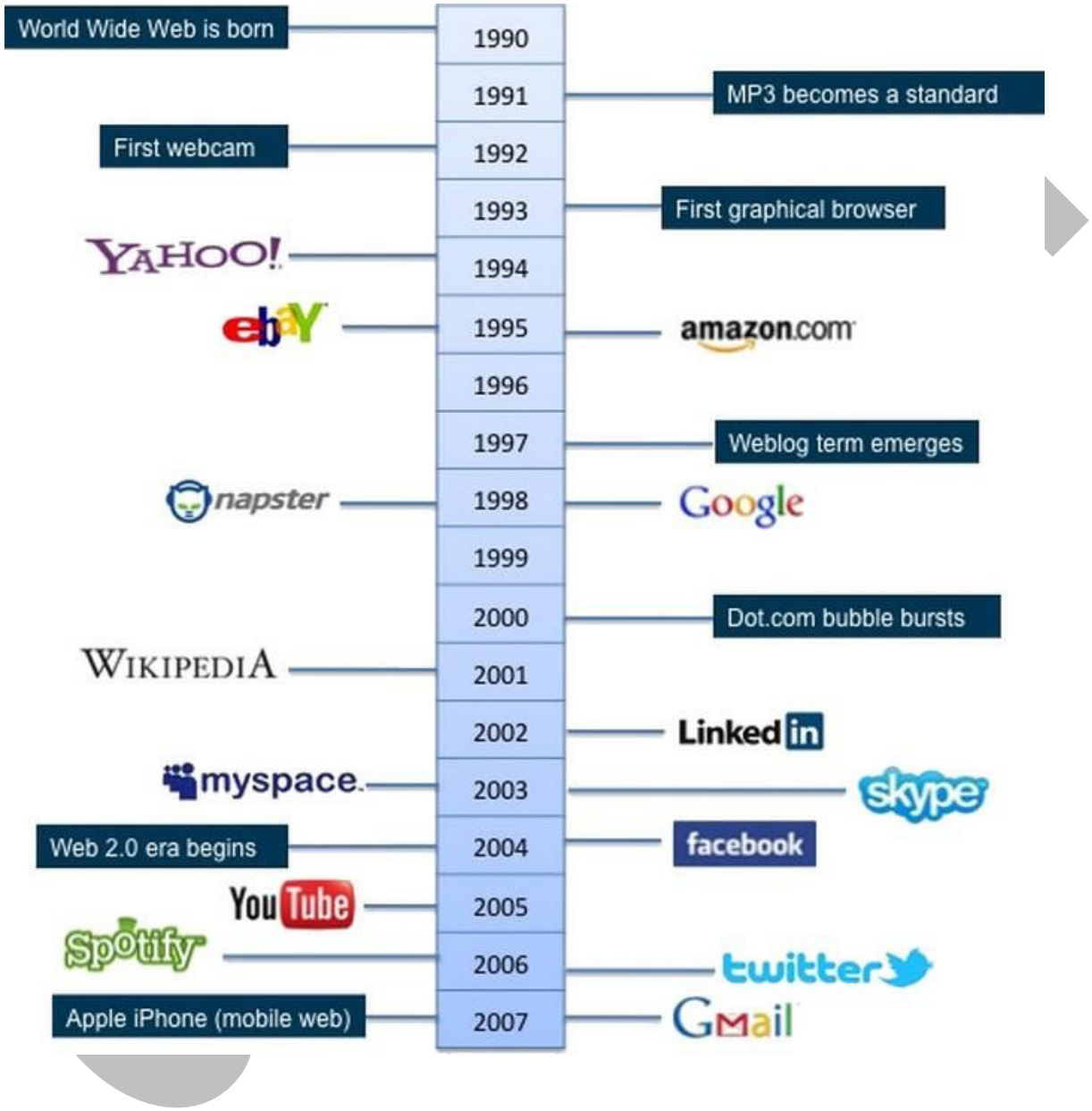
Opera browser released

1995: RealAudio, an audio streaming technology, sound files near real-time

Traditional online dial-up systems such as CompuServe began to provide Internet access

Internet related companies were first listed on the stock exchange
Telstra took over the Internet infrastructure in Australia
First version of Microsoft Internet Explorer released
Yahoo released as a hierarchical search engine
1996: Google began as a research project at Stanford University
1998: Google launched as a company
Blogger launched in 1999
2000: Australian government endorsed the transfer of authority for the .au domain to auDA
2001: Forwarding email in Australia became illegal with the passing of the Digital Agenda Act as it was seen as a technical infringement of personal copyright
2003: The first official Swiss online election took place in Anières Del.icio.us (social bookmarking site) established 2003
2004: First version of Mozilla Firefox released (an adaption of Netscape)
Facebook launched
Flickr established
2006: Twitter created
2007: Apple iPhone (mobile web) and Gmail launched

World Wide Web is an information system on the Internet which allows documents to be connected to other documents by hypertext links, enabling the user to search for information by moving from one
document to another



Search Engines

A **Web Search Engine** is a software system that is designed to search for information on the WWW. The search results are generally presented in a line of results often referred to as search engine results pages (SERPs). The information may be a mix of web pages, images, and other

types of files. Some search engines also mine data available in databases or open directories. Unlike web directories, which are maintained only by human editors, search engines also maintain real-time information by running an algorithm on a web crawler.

Typically, web search engines work by sending out a spider to fetch as many documents as possible. Another program, called an indexer, then reads these documents and creates an index based on the words contained in each document. Each search engine uses a proprietary algorithm to create its indices such that, ideally, only meaningful results are returned for each query.

Today, there are thousands of different search engines available on the Internet, each with their own abilities and features. The first search engine ever developed is considered Archie, which was used to search for FTP files and the first text-based search engine is considered Veronica. Today, the most popular and well-known search engine is Google.

A search engine is accessed through a browser on their computer, smartphone, tablet, or another device.

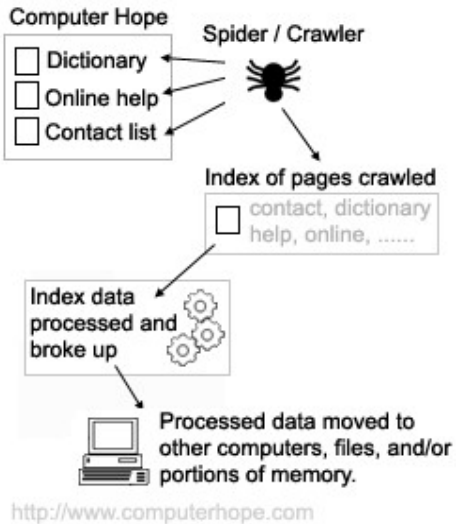
Common Search Engine Types:

In addition to Web search engines other common types of search engines include the following:

- **Local (or offline) Search Engine:** Designed to be used for offline PC, CDROM or LAN searching usage.
- **Metasearch Engine:** A search engine that queries other search engines and then combines the results that are received from all.
- **Blog Search Engine:** A search engine for the blogosphere. Blog search engines only index and provide search results from blogs (Web logs).

Top 10 Most Popular Search Engines In the World (Updated 2017):

1. Google
2. Bing
3. Yahoo
4. Ask.com
5. AOL.com
6. Baidu
7. Wolframalpha
8. DuckDuckgo
9. Internet Archive
10. ChaCha.com



How a search engine works

Because large search engines contain millions and sometimes billions of pages, many search engines not only just search the pages but also display

the results depending upon their importance. This importance is commonly determined by using various algorithms.

Visual search engine exampleAs illustrated in the image on the right, the source of all search engine data is a spider or crawler, which automatically visits pages and indexes their contents.

Once a page has been crawled, the data contained within the page is processed and indexed. Often, this can involve the steps below.

- Strip out stop words.
- Record the remaining words in the page and the frequency they occur.
- Record links to other pages.
- Record information about images or other embedded media.

The data collected above is used to rank the page and is the primary method a search engine uses to determine if a page should be shown and in what order.

Finally, once the data is processed it is broken up into one or more files, moved to different computers, or loaded into memory where it can be accessed when a search is performed.

Search Engine Techniques:

The problem with search engines is that you either get too many hits or two few hits. Most of us enter a key word and then hit search. However, there are some very unique strategies that you can use and different search engines you can use in different ways. Let us take a look at knowledge to help you search the web with search engines with better results.

Keyword Searching

Keyword searching is using a key word to find what you are looking for. It's perhaps the most common form of search engine searching. Here are some types with using keyword searches.

PHRASE SEARCHING: Generally phrases are placed in "". That is:

"Surveillance Investigator"

Any time you have more than one key word, you have a phrase. Although each search engine is different, know when you should use this method.

AND SEARCHING: When you place the word AND between two key words, you are telling the search database that you want to pull only listings with those key words. The most common way this is done is with a + for example: +investigative +resources. You will find that some search engines make it easy to use the AND search by offering you a click option.

OR SEARCHING: To example your hit list, use OR. it's like saying find anything with this OR that.

NOT SEARCHING: Not gives you the ability to weed out certain key words on your final list. You usually put a negative sign in front of your word for this search.

For example: let us say you want to search the word investigator bot not private investigators. You might use this: investigator-private. The database will pull up all investigator pages but not private investigator pages.

NEAR SEARCHING: Sometimes it is useful to use a keyword and tell the database you want a keyword that's near another word. You can specific the word count from the main keyword with NEAR SEARCHES. For example: Investigator NEAR/15 "surveillance issues". What you will pull up is site with the word investigator in it with the phrase "surveillance issues" fifteen words of closer to the main keyword" investigator.

WILDCARD SEARCHES: Wildcards searching generally places the symbol "*" after a word. It tells the database to look for variations of that word. For Example:

Investigation*

Might pull sites with words such as investigation, investigator, and investigative.

NESTED SEARCHING: Nested searching is usually one or more of the specialized search strategies describe above together. It might look something like this:

Investigator NEAR (Texas OR Tx)

In the above example, you should pull investigators in Texas or TX.

News-group

A **newsgroup** is a discussion about a particular subject consisting of notes written to a central Internet site and redistributed through Usenet, a worldwide network of news discussion groups. Usenet uses the Network News Transfer Protocol (NNTP).

Popular News-group are:

1. CNET
2. DAYONE
3. HOKEYPOKEY
4. HANSON
5. THEMEDIA

Newsgroups generally come in either of two types, binary or text.

Binary

While newsgroups were not created with the intention of distributing files such as pictures, sound and video, they have proven to be quite effective for this. Because newsgroups are widely distributed, a file uploaded once will be spread to many other servers and can then be downloaded by an unlimited number of users.

Moderated newsgroups

A moderated newsgroup has one or more individuals who must approve posts before they are published. A separate address is used to submit posts and the moderators then propagate those they approve of. The first moderated newsgroups appeared in 1984 under mod.* according to RFC 2235, "Hobbes' Internet Timeline".

Advantages of newsgroups:

1. Newsgroups are similar in some ways to mailing lists, but they tend to have a better structure, which makes it more likely that they will be around for much longer than a mailing list.

2. FAQ (frequently asked questions) section on a newsgroup, which is always helpful for those who are not sure of anything. These questions tend to be the ones that are asked repeatedly and so negate the need for constantly answering the same question.

Disadvantages of a newsgroup:

1.A newsgroup is not as quick as an email or even a mailing list. Very often there will be a delay of at least a day, often longer, before a response is given.

2.Another disadvantage to a newsgroup is that the information on them is submitted by people who may have no real idea of what they are talking about, so you need to be aware of this potential flaw and keep your mind open to alternatives.

Email and its Protocols

Electronic mail, or **email**, is a method of exchanging digital messages between people using digital devices such as computers, tablets and mobile phones. It offers an efficient, inexpensive and real time mean of distributing information among people.

Each user of email is assigned a unique name for his email account. This name is known as E-mail address. Different users can send and receive messages according to the e-mail address.

E-mail is generally of the form **username@domainname**.

Advantages of Email :

E-mail has prooved to be powerful and reliable medium of commmunication. Here are the benefits of **Email:**

- **Reliable**: Many of the mail systems notify the sender if e-mail message was undeliverable.
- **Convenience**: There is no requirement of stationary and stamps. One does not have to go to post office. But all these things are not required for sending or receiving an mail.
- **Speed**: E-mail is very fast. However, the speed also depends upon the underlying network.
- **Inexpensive**: The cost of sending e-mail is very low.
- **Printable**: It is easy to obtain a hardcopy of an e-mail. Also an electronic copy of an e-mail can also be saved for records.
- **Global**: E-mail can be sent and received by a person sitting across the globe.
- **Generality**: It is also possible to send graphics, programs and sounds with an e-mail.

Disadvantages of Email:

Forgery: E-mail doesn't prevent from forgery, that is, someone impersonating the sender, since sender is usually not authenticated in any way.

Overload: Convenience of E-mail may result in a flood of mail.

Misdirection: It is possible that you may send e-mail to an unintended recipient.

Junk: Junk emails are undesirable and inappropriate emails. Junk emails are sometimes referred to as spam.

No response: It may be frustrating when the recipient does not read the e-mail and respond on a regular basis.

Email Protocols

E-mail Protocols are set of rules that help the client to properly transmit the information to or from the mail server.Various protocols such as **SMTP, POP,** and **IMAP.**

SMTP stands for **Simple Mail Transfer Protocol**. It was first proposed in 1982. It is a standard protocol used for sending e-mail efficiently and reliably over the internet.

- SMTP is application level protocol.
- SMTP is connection oriented protocol.

- SMTP is text based protocol.
- It handles exchange of messages between e-mail servers over TCP/IP network.
- Apart from transferring e-mail, SMPT also provides notification regarding incoming mail.
- When you send e-mail, your e-mail client sends it to your e-mail server which further contacts the recipient mail server using SMTP client.
- These SMTP commands specify the sender's and receiver's e-mail address, along with the message to be send.
- The exchange of commands between servers is carried out without intervention of any user.
- In case, message cannot be delivered, an error report is sent to the sender which makes SMTP a reliable protocol.

IMAP stands for **Internet Mail Access Protocol.** It was first proposed in 1986. There exist five versions of IMAP as follows: Original IMAP,IMAP2,IMAP3,IMAP2bis,IMAP4.

- IMAP allows the client program to manipulate the e-mail message on the server without downloading them on the local computer.
- The e-mail is hold and maintained by the remote server.
- It enables us to take any action such as downloading, delete the mail without reading the mail.It enables us to create, manipulate and delete remote message folders called mail boxes.
- IMAP enables the users to search the e-mails.
- It allows concurrent access to multiple mailboxes on multiple mail servers.

POP stands for **Post Office Protocol**. It is generally used to support a single client. There are several versions of POP but the POP 3 is the current standard.

- POP is an application layer internet standard protocol.
- Since POP supports offline access to the messages, thus requires less internet usage time.
- POP does not allow search facility.
- In order to access the messaged, it is necessary to download them.

- It allows only one mailbox to be created on server.
- It is not suitable for accessing non mail data.
- POP commands are generally abbreviated into codes of three or four letters. Eg. STAT.

Web Portal

A Web portal is most often a specially designed web site that brings information together from diverse sources in a uniform way. Usually, each information source gets its dedicated area on the page for displaying information (a portlet); often, the user can configure which ones to display. Variants of portals include mashups and intranet "dashboards" for executives and managers. The extent to which content is displayed in a "uniform way" may depend on the intended user and the intended purpose, as well as the diversity of the content. Very often design emphasis is on a certain "metaphor" for configuring and customizing the presentation of the content and the chosen implementation framework and/or code libraries. In addition, the role of the user in an organization may determine which content can be added to the portal or deleted from the portal configuration.

A portal may use a search engine API to permit users to search intranet as opposed to extranet content by restricting which domains may be searched. Apart from this common search engines feature, web portals may offer other services such as e-mail, news, stock quotes, information from databases and even entertainment content. Portals provide a way for enterprises and organizations to provide a consistent look and feel with access control and procedures for multiple applications and databases, which otherwise would have been different web entities at various URLs. The features available may be restricted by whether access is by an authorized and authenticated user (employee, member) or an anonymous site visitor.

Examples of early public web portals were AOL, Excite, Netvibes, iGoogle, MSN, Naver, Lycos, Indiatimes, Rediff, and Yahoo!

Web Browsers

A web browser (browser) is a software application for retrieving, presenting and traversing information resources on the WWW. The first web browser was invented in 1990 by Sir Tim Berners-Lee. An information resource is identified by a Uniform Resource Identifier (URI/URL) that may be a web page, image, video or other piece of content. Hyperlinks present in resources enable users easily to navigate their browsers to related resources.

Although browsers are primarily intended to use the World Wide Web, they can also be used to access information provided by web servers in private networks or files in file systems.

The most popular web browsers are Google Chrome, Microsoft Edge (preceded by Internet Explorer), Safari, Opera and Firefox.

The primary purpose of a web browser is to bring information resources to the user ("retrieval" or "fetching"), allowing them to view the information ("display", "rendering"), and then access other information ("navigation", "following links").

URL

URL (Uniform Resource Locator) is the address of a WWW page. URL is a reference to a web resource that specifies its location on a computer network and a mechanism for retrieving it. A URL is a specific type of Uniform Resource Identifier (URI), although many people use the two terms interchangeably. A URL implies the means to access an indicated resource, which is not true of every URI.[4][3] URLs occur most commonly to reference web pages (http), but are also used for file transfer (ftp), email (mailto), database access (JDBC), and many other applications.

Most web browsers display the URL of a web page above the page in an address bar. A typical URL could have the form http://www.example.com/index.html, which indicates a protocol (http), a hostname (www.example.com), and a file name (index.html).

Internet users are distributed throughout the world using a wide variety of languages and alphabets and expect to be able to create URLs in their own local alphabets. An Internationalized Resource Identifier (IRI) is a form of URL that includes Unicode characters. All modern browsers support IRIs. The parts of the URL requiring special treatment for different alphabets are the domain name and path.

Web Site

A website is a collection of related web pages, including multimedia content, typically identified with a common domain name, and published on at least one web server. A website may be accessible via a public Internet Protocol (IP) network, such as the Internet, or a private local area network (LAN), by referencing a uniform resource locator (URL) that identifies the site.

Websites have many functions and can be used in various fashions; a website can be a personal website, a commercial website for a company, a government website or a non-profit organization website. Websites can be the work of an individual, a business or other organization, and are typically dedicated to a particular topic or purpose, ranging from entertainment and social networking to providing news and education. All publicly accessible websites collectively constitute the World Wide Web, while private websites, such as a company's website for its employees, are typically a part of an intranet.

Web pages, which are the building blocks of websites, are documents, typically composed in plain text interspersed with formatting instructions of Hypertext Markup Language (HTML, XHTML). They may incorporate elements from other websites with suitable markup anchors. Web pages

are accessed and transported with the Hypertext Transfer Protocol (HTTP), which may optionally employ encryption (HTTP Secure, HTTPS) to provide security and privacy for the user. The user's application, often a web browser, renders the page content according to its HTML markup instructions onto a display terminal.

Domain Names

Domain locates an Internet address for "totalbaseball.com" at Internet point 199.0.0.2 and a particular host server named "www." The "com" part of the domain name reflects the purpose of the organization or entity (in this example, "commercial") and is called the top-level domain name.

A domain name is an identification string that defines a realm of administrative autonomy, authority or control within the Internet. Domain names are formed by the rules and procedures of the Domain Name System (DNS). Any name registered in the DNS is a domain name. Domain names are used in various networking contexts and application-specific naming and addressing purposes. In general, a domain name represents an Internet Protocol (IP) resource, such as a personal computer used to access the Internet, a server computer hosting a web site, or the web site itself or any other service communicated via the Internet. In 2015, 294 million domain names had been registered.

Domain names are organized in subordinate levels (subdomains) of the DNS root domain, which is nameless. The first-level set of domain names are the top-level domains (TLDs), including the generic top-level domains (gTLDs), such as the prominent domains com, info, net, edu, and org, and the country code top-level domains (ccTLDs). Below these top-level domains in the DNS hierarchy are the secondlevel and third-level domain names that are typically open for reservation by end-users who wish to connect local area networks to the Internet, create other publicly accessible Internet resources or run web sites.

The registration of these domain names is usually administered by domain name registrars who sell their services to the public.

Portals

A Web portal is most often a specially designed web site that brings information together from diverse sources in a uniform way. Usually, each information source gets its dedicated area on the page for displaying information (a portlet); often, the user can configure which ones to display. Variants of portals include mashups and intranet "dashboards" for executives and managers. The extent to which content is displayed in a "uniform way" may depend on the intended user and the intended purpose, as well as the diversity of the content. Very often design emphasis is on a certain "metaphor" for configuring and customizing the presentation of the content and the chosen implementation framework and/or code libraries. In addition, the role of the user in an

organization may determine which content can be added to the portal or deleted from the portal configuration.

Major Types of Web portals:

Personal Web portals, Government Web portals , Cultural portals, Corporate Web portals

Stock portals, Search portals , Property search portals, Hosted Web portals , Domain-

specific portals

Hyper Text Markup Language (HTML)

HTML is a hypertext Language because it supports font styles text, pictures, graphics and animations and also it provides hyper links used to browse the Internet easily. Text becomes hypertext with the addition of links that connects other hypertext documents. Hypertext is a text augmented with links-pointers to other pieces of text, possible elsewhere in the same document (internal linking) or in another document (external linking).

HTML was originally developed by Tim Berners-Lee while at CERN and popularized by the Mosaic browser, which is developed at NCSA. The current version of HTML 5.0 is used, which was released in 2012.

Advantages of HTML:

1. First advantage it is widely used.
2. Every browser supports HTML language.
3. Easy to learn and use.
4. It is by default in every windows so you don't need to purchase extra software. **Disadvantages of HTML:**

1. It can create only static and plain pages so if we need dynamic pages then HTML is not useful.
2. Need to write lot of code for making simple webpage.
3. Security features are not good in HTML.
4. If we need to write long code for making a webpage then it produces some complexity.

Rules to write HTML Code:

- Every HTML document begins with start tag is <HTML> terminates with an ending tag is </HTML>
- HTML documents should be saved with the extension .html or .htm.

- A tag is made up of left operator(<), a right operator(>) and a tag name between these two operators.
- If you forget to mention the right operator(>) or if you give any space between left operator and tag name browser will not consider it as tag.
- At the same time if browser not understands the tag name it just ignores it, browser won't generate any errors.
- HTML language is not case sensitive, hence user can write the code in either upper case or lower case. No difference between <HTML> and <html>

Syntax of a tag:

<Tagname [parameters=value]>

Ex: HR is a tag name that displays a horizontal ruler line.

<HR> - ---- (No parameters, no value)

<HR ALIGN=CENTER> ----- (Tag with parameter and value for the parameter)

<HR WIDTH="30%" SIZE=100 ALIGN=RIGHT> ----- (Tag with more parameters with their values)

Different types of Tags:

1. Singleton tags (Empty tags): Do not require an ending tag. (Ex: <HR>
2. Paired tags (Container tags): Required an ending tag, which is similar to opening tag except backslash before the tag name (Ex: <HTML> is opening tag, then ending tag is </HTML>

Comments in HTML:

An HTML comment begins with "<!--" and ends with "-->".There should not be a space between angular bracket and exclamation mark.

Structure of HTML:

The Following steps are needed to create a HTML page

Step 1: Open any text editor like Notepad, Edit, Word

etc.

Step 2: Use the file menu to create a new document (File New) and type the following code

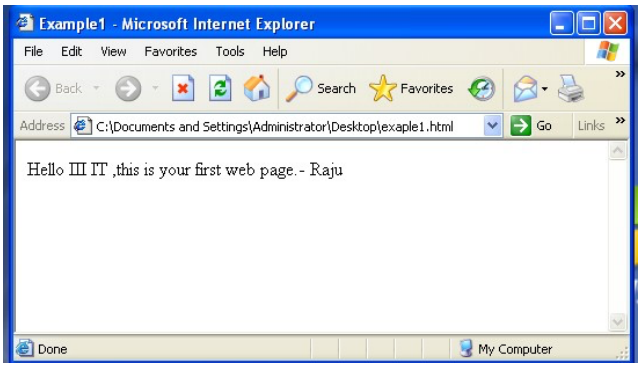
```
<HTML>
<HEAD>
<TITLE>Example1 </TITLE>
<BODY>
   Hello III IT ,this is your first web page.- Raju
</BODY>
</HTML>
```

Step 3: Go to the file menu and choose saveas option (File->saveas) and give the name of the file as

“example1.html” under root directory(C:)(or any valid path)

Step 4: After saving, an internet explorer icon will be displayed as shown below

Step 5: Double click to execute it. The output displayed following



Basic HTML tags / Text Formatting

1. Body tag: Contain some attributes such as bgcolor, background etc. bgcolor is used for background color, which takes background color name or hexadecimal number and #FFFFFF and background attribute will take the path of the image which you can place as the background image in the browser.

<body bgcolor=”#F2F3F4” background= “c:\amer\imag1.gif”>

2. Paragraph tag: Most text is part of a paragraph of information. Each paragraph is aligned to the left, right or center of the page by using an attribute called as align.

<p align=”left” | “right” | “center”>

3. Heading tag: HTML is having six levels of heading that are commonly used. The largest heading tag is <h1>. The different levels of heading tag besides <h1> are <h2>,<h3>, <h4>, <h5> and <h6>. These heading tags also contain attribute called as align.

<h1 align=”left” | “right” | “center”> . . . . <h2>

4. hr tag: This tag places a horizontal line across the system. These lines are used to break the page. This tag also contains attribute i.e., width which draws the horizontal line with the screen size of the browser. This tag does not require an end tag.

<hr width=”50%”>.

5. base font: This specify format for the basic text but not the headings.

<basefont size=”10”>

6. font tag: This sets font size, color and relative values for a particular text.

<font size="10" color="#f1f2f3">

7. bold tag: This tag is used for implement bold effect on the text

 …….

8. Italic tag: This implements italic effects on the text.

…….

9. strong tag: This tag is used to always emphasized the text

…….

10. tt tag: This tag is used to give typewriting effect on the text

<tt>……..</tt>

11. sub and sup tag: These tags are used for subscript and superscript effects on the text.

_{…….}

^{…….}

12. Break tag: This tag is used to the break the line and start from the next line.

Escape Sequence:

& < >   " These are character escape sequence which are required if you want to display characters that HTML uses as control sequences. Example: < can be represented as &lt.

Example 1: HTML code to implement common tags.

mypage.html

```
<html>
<head> <! -- This page implements common html tags -->
<title> My Home page </title>
</head>
<body >
```

```
<h1 align="center"> VRS & YRN COLLEGE OF ENGINEERING  & TECHNOLOGY</h1>
<h2 align="center"> Chirala</h2>
<basefont size=4>
<p> This college runs under the <tt>management</tt> of <font size=5>
<b><i>&quot  VRS & YRN Society&quot &amp </i></b></font><br>   it is
affiliated to <strong> JNTUK</strong>
<hr size=5 width=80%>
<h3> <u>&lt Some common tags &gt</u> </h3><br>
</body>
</html>
```

Inserting Special Characters:

Result	Description	Entity Name	Entity Number
	non-breaking space		
<	less than	<	<
>	greater than	>	>
&	Ampersand	&	&
"	double quotation mark	"	"
'	single quotation mark (apostrophe)	'	'
¢	Cent	¢	¢
£	Pound	£	£
¥	Yen	¥	¥
€	Euro	€	€
©	Copyright	©	©

Example

```
<p>I will display &euro;</p>
<p>I will display &#8364;</p> Will
```

display as:

I will display €

I will display €

Anchor tag:

This tag is used to link two HTML pages, this is represented by <a>. the tag has three sections: the address of the referenced document, a piece of text displayed as link, and the closing tag, Syntax:

```
<a href=”address” name="id" target="name" title="description">Text</a>
```

The text between the opening tag and the closing tag is a hyperlink. Attributes of the anchor tag are as follows.

Attributes	Description
HREF	Used to specify the path and file name of the HTML page that you need to access by using a hyperlink
NAME	The name attribute enables you to create anchor with in HTML page. This anchor tag is used to bookmark a location in an HTML page
TITLE	The title attribute specifies extra information about an element. The information is most often shown as a tooltip text when the mouse moves over the element.
REL	The rel attribute specifies the relationship between the current document and the linked document. Only used if the href attribute is present.
Target	The target attribute specifies a window or a frame where the linked document is loaded

All attributes are optional, although one of NAME and HREF is necessary for the anchor to be useful.

Links in HTML (Types of Links)

Links are used to "link" a visitor from one area to another. There are many types of links :

Local: A page on the same server or directory

Internal: A section on the current page or document

External: A page or site on a different server or directory

Download: A file for the visitor to download

E-mail: Opens the visitor's e-mail program

1. Local Links: A Local link uses a page name (including sub-directories if needed) as the target. It is

"local" to the current server.

Click here to go to the local page

2. Internal Links: Internal links can also be called page jump, u can make this jump with two simple steps

First step:

Assign the place of the page where u want the pointer to move, and bookmark it by adding this cod in it

<A NAME="ur bookmark name"></A>

u will need the "ur bookmark name" in the next step.

Second step:

You need to add a link in anyplace in ur page to let the user move to ur bookmark point from it

<A HREF="#ur bookmark name "> Add the text to be displayed and clicked by the user </A></P>

The A stands for Anchor. In general, the anchor tag tells the browser to anchor or to attach to something else. Every Anchor tag must have a closing or end tag (</A>) to signal the end of the anchor. HREF stands for Hypertext REFerence. It means that "this is where the link is going to. Example:

Let's add a link to move the user to the top of the current page

First step: we add the bookmark code at the top of the page

<A NAME="top"></A>

Second step: add the link anywhere in ur page

<A HREF="#top "> click here to go to the top of this page </A></P>

and this is my link:

click here to go to the top of this page

the link will take u few lines above since we are not far from the top of this page

3. External Links: To link to any page in the world,u need the (URL) of the page you want to link to.

 text to click on

Example:

I want to link to my blog home page, so i will use this code

 Click here to visit my blog, enjoy!

and this is my link

Click here to visit my blog, enjoy!

4. Download links: File links are used for allowing a visitor to download a file. These links are set up exactly the same as the local or external links. Instead of “pointing” to another page or site, it points to a file. When the user clicks on this link, the browser knows it is a file and will ask the visitor if they want to download the file. The types of files available to be used for download depends on your online server. A common and most accepted type is a ZIP file.

Click here to download this file

You can get the file URL by uploading your file to any uploading site and they will give you the URL for your file.

5. E-mail links: The e-mail link is for receiving e-mail and feedback from visitors. This link will prompt the browser’s e-mail program to start and place the e-mail address in automatically.

click here to send me e-mail

Note the mailto: in the HREF value. This is how the browser detects an e-mail setting instead of a web page setting.

* You can also add set the subject, cc and bcc lines as part of the mailto:

The subject line of an e-mail can be filled in automatically by adding a SUBJECT property:

click here to send me e-mail

The cc and bcc can be added in the same way replacing their name instead of the subject word.

Link colors:

Links, by default, show up in different colors from the rest of the text on your web page. These settings are found in the individual browser settings. To over-ride these settings, you can declare your own link colors in the opening BODY tag:

LINK: Color of a non-activated link. (default blue)

VLINK: Color of a previously visited link. (default red)

ALINK: Color of a currently active link. (default orange)

<body link= “#0000ff” vlink= “#ff0000” alink= “#ff8429” > ur HTML code here </body>

Using the text color codes, you can choose the colors to suit your page. The ALINK is not used much. There aren’t many instances when there is an open link at the same time as the current page. Be sure you are just inserting these properties into the current opening BODY tag. Do NOT create a second opening BODY tag. Any given HTML document can have only one BODY tag set. Any more than one set will result with page errors.

Adding Color and Images:

Color can be used for background, elements and links. To change the color of links or of the page background hexadecimal values are placed in the <body> tag.

<body bgcolor = “#nnnnnn” text = “#nnnnnn” link= “#nnnnnn” vlink= “#nnnnnn” alink = “#nnnnnn”> The vlink attribute sets the color of links visited recently, alink the color of a currently active link. The six figure hexadecimal values must be enclosed in double quotes and preceded by a hash(#).

Images are one of the aspect of web pages. Loading of images is a slow process, and if too many images are used, then download time becomes intolerable. Browsers display a limited range of image types.

<body background = “URL”>

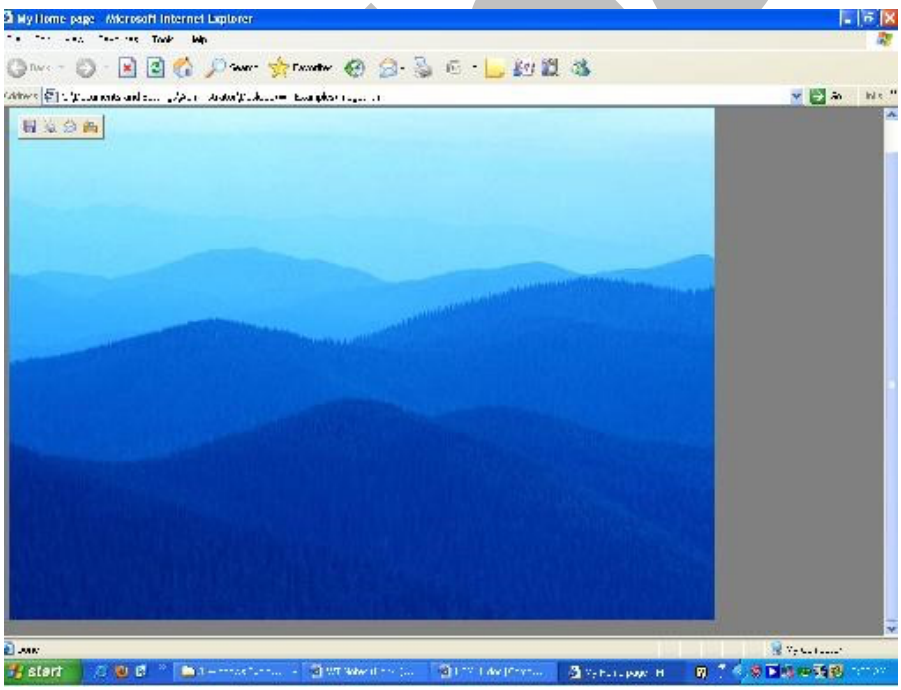
This tag will set a background image present in the URL.

Another tag that displays the image in the web page, which appears in the body of the text rather than on the whole page is given below

<img src=”URL” height=”n” width=”n” align = “top” | “center” | “bottom” >

Example 4: HTML code that implements color and image

```
<html>
<head>  <! -- This page implements color and image -->
<title> My Home page </title>
</head>
<body bgcolor="gray" text="magneta"  vlink="yellow" alink="brown">
<img src= ” C:\Documents and Settings\All Users\Documents\My Pictures\Sample Pictures\Blue hills.jpg”>
</body>
</html>
```



Example 5: HTML code that implements background image

```
<html>
```

<head> <! -- This page implements background image -->

<title> My Home page </title>

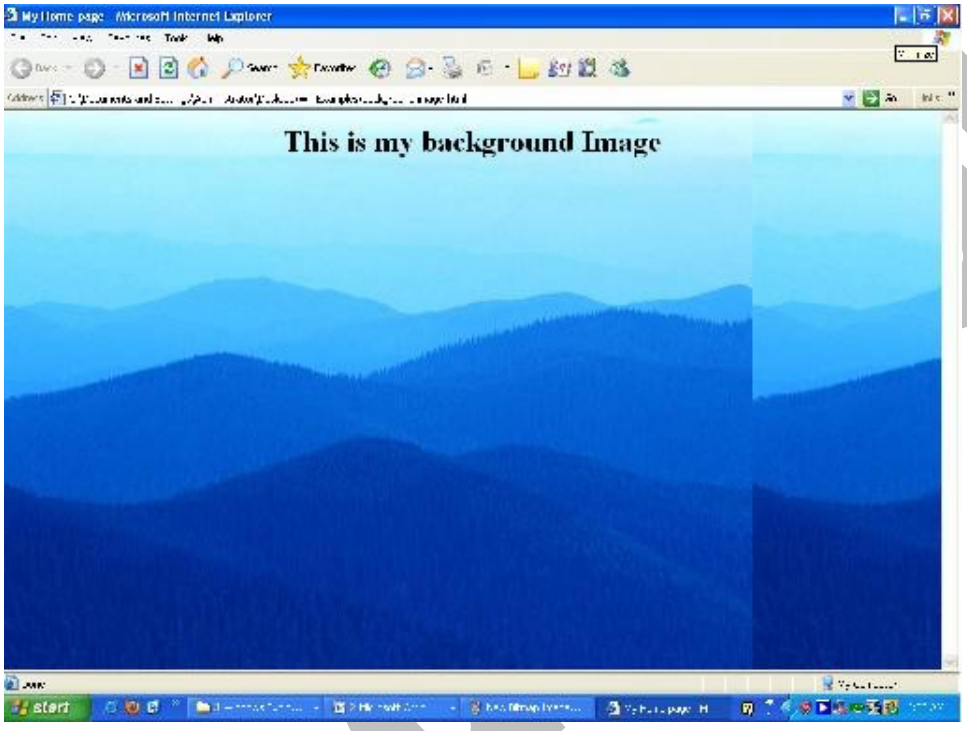
</head>

<body background="C:\Documents and Settings\All Users\Documents\My Pictures\Sample Pictures\Blue hills.jpg">

<h1 align="center"> This is my background Image</h1>

</body>

</html>



Adding Sound:

The controls attribute adds audio controls, like play, pause, and volume.

The <source> element allows you to specify alternative audio files which the browser may choose from. The browser will use the first recognized format.

The text between the <audio> and </audio> tags will only be displayed in browsers that do not support the <audio> element.

<!DOCTYPE html>

<html>

<body>

```
<audio controls>
 <source src="horse.ogg" type="audio/ogg">
 <source src="horse.mp3" type="audio/mpeg">
Your browser does not support the audio element.
</audio>

</body>
</html>
```

Lists:

One of the most effective ways of structuring a web site is to use lists. Lists provides straight forward index in the web site. HTML provides three types of list i.e., bulleted list, numbered list and a definition list. Lists can be easily embedded easily in another list to provide a complex but readable structures. The different tags used in lists:

Unordered Lists: Unordered lists are also called unnumbered .lists. The Unordered list elements are used to represent a list of items, which are typically separated by white space and/or marked by bullets. Using <UL> tag does creation of unordered lists in HTML. Which is paired tag, so it requires ending tag that is </UL>. The list of items are included in between <UL>.....</UL>. The TYPE attribute can also be added to the <UL> tag that indicates the displayed bullet along with list of item is square, disc or circle. By default it is disc.

```
Syntax:-    <UL [TYPE={square/disc/circle}]>
            <LI>item name1
            <LI>item name2
               ……..
          ----------------------
            <LI>item namen
       </UL>
```

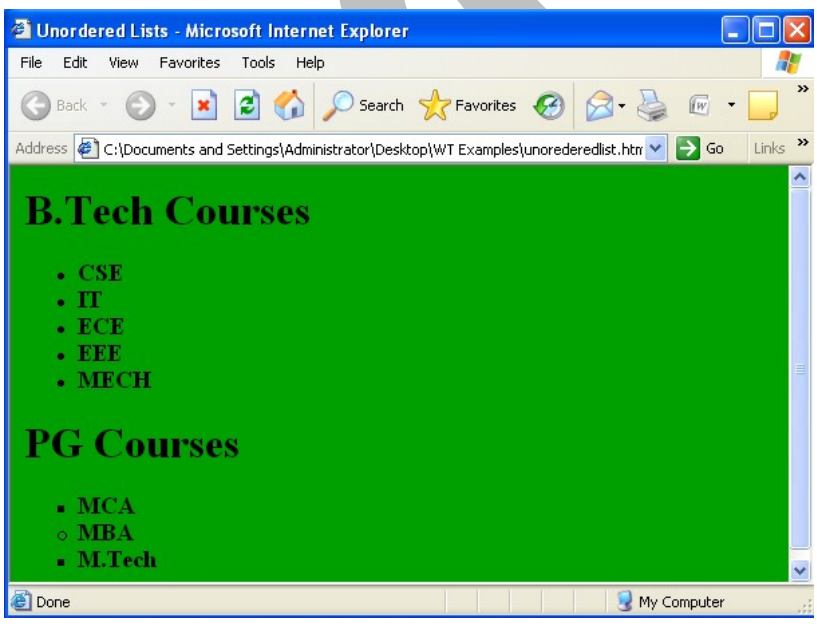
Example:

Write a HTML program for displaying names of B.Tech Courses with default bullets and names of PG Courses with square bullets.

```
<html>
    <head>
        <title>Unordered Lists</title>
    </head>
```

```
<body bgcolor=”tan”>

    <h1>B.Tech Courses
       <h3>
<ul>
      <li>CSE
      <li>IT
      <li>ECE
      <li>EEE
      <li>MECH
</ul>
    </h3>
<h1>PG Courses
     <h3>
         <ul type=”square”>
                <li>MCA
                <li type=”circle”>MBA
                <li>M.Tech
         </ul>
    </h3>
  </body>
</html>
```



Ordered Lists: Ordered lists are also called sequenced or numbered lists. In the ordered list the list of item have an order that is signified by numbers, hence it some times called as number lists. Elements used to present a list of items, which are typically separated by white space and/or marked by numbers or alphabets. An orders list should start with the <OL> element, which is immediately followed by a <LI> element which is same as <LI> in unordered list. End of ordered lists is specified with ending tag </OL>.

Different Ordered list types like roman numeral list, alphabet list etc. can be specified with TYPE tag. Another optional parameter with <OL> tag is START attribute, which indicates the starting number or alphabet of the ordered list. For example TYPE="A" and START=5 will give list start with letter E. The TYPE attribute used in <LI>, changes the list type for particular item. To give more flexibility to list, we can use VALUE parameter with <LI>tag that helps us to change the count for the list item and subsequence items. Syntax:-

<OL [type={"1" or "I" or "a" or"A" or "i"}] START=n>

<LI>item name1

<LI>item name2

<LI>item namen

</OL>

Different Ordered list types

Type="1" (default) e.g.1,2,3,4.....

Type="A" Capital letters e.g.A,B,C...

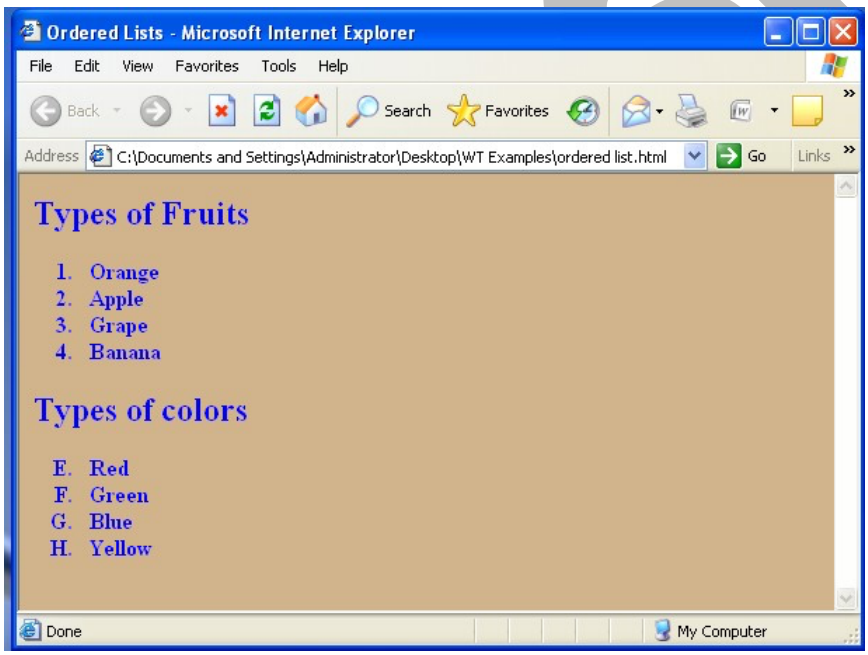
Type="a" Small letters e.g. a,b,c.....

Type="I" Large roman letters e.g. I, II, III,...

Example:-

```
<html>
<head>
<title>Ordered Lists</title>
</head>
<body bgcolor="tan" text="blue">
<h2> Types of Fruits
<h4>
    <OL>
        <LI>Orange
```

```
                <LI>Apple
                <LI>Grape
                <LI>Banana
        </OL>
</h4>
<h2>Types  of  colors
<h4>
        <OL type="A" START=5>
<LI>Red
<LI>Green
<LI>Blue
<LI>Yellow
        </OL>
</h4>
</body>
</html>
```

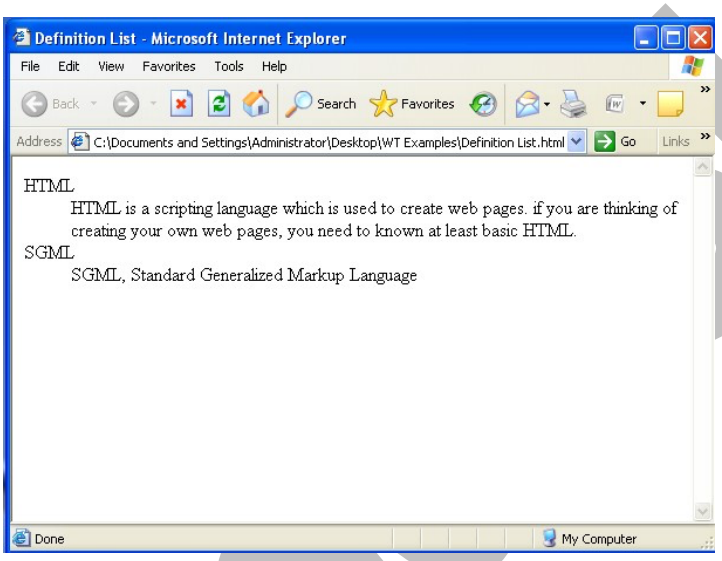


Other Lists: There are several lists in HTML, some of them are definition list and Directory List.

Definition List:- <DL>.....</DL>

A Definition list is alist of definition terms <DT> and corresponding Difinition Description<DD> on anew line. To create a definition it must start with <DL> and immediately followed by the first definition term <DT> Example:-

```
<html>
    <head>
        <title>Definition List</title>
    <body>
        <DL>
        <DT>HTML
 <DD> HTML is a scripting language which is used to create web pages. if you are thinking of creating your own web pages, you need to known at least basic HTML.
        <DT>SGML
       <DD>SGML, Standard Generalized Markup Language
        </DL>
    </body>
</html>
```



Directory List: A Directory list element is used to present a list of items containing up to 20 characters each. Items in a Directory List may be arranged in columns, typically 24 characters wide. A Directory List being with <DIR>element,which is immediately followed by a <LI>element. This tag is a deprecated tag, so it is not preferable to use. Hence,use <UL> instead of <DIR>

```
    Other information
        <DIR>
            <LI>Contacts-2043240
             <LI>Business-4123412
             <LI>Personal-3123122
        </DIR>
```

Nested Lists: Lists can be nested that is Nested Lists is list with in another list.

Tables:

Table is one of the most useful HTML constructs. Tables are find all over the web application. The main use of table is that they are used to structure the pieces of information and to structure the whole web page. Below are some of the tags used in table.

<table align="center" | "left" | "right" border="n" width="n%" cellpadding="n" cellspacing="n">

……

</table>

Every thing that we write between these two tags will be within a table. The attributes of the table will control in formatting of the table. Cell padding determines how much space there is between the contents of a cell and its border, cell spacing sets the amount of white space between cells. Width attribute sets the amount of screen that table will use.

<tr> ….. </tr>

This is the sub tag of <table> tag, each row of the table has to be delimited by these tags.

<th>……</th>

This is again a sub tag of the <tr> tag. This tag is used to show the table heading .

<td>…..</td>

This tag is used to give the content of the table.

Example 3: HTML code showing the use of table tag

```
<html>
<head>
<title> table page</title>
</head>
<body>
<table align="center" cellpadding="2" cellspacing="2" border="2">
<caption> Time Table for III year IT </caption>
<tr><th> 1 period </th>
<th> 2 peiord </th>
```

<th> 3 peiord </th>

<th> 4 peiord </th>

</tr>

<tr>

<td> wt </td>

<td> uml</td>

<td> MT</td>

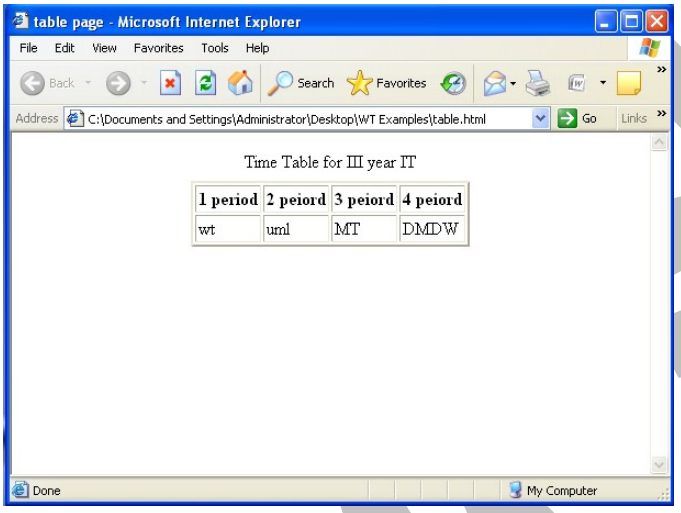
<td> DMDW</td>

</tr>

</table>

</body>

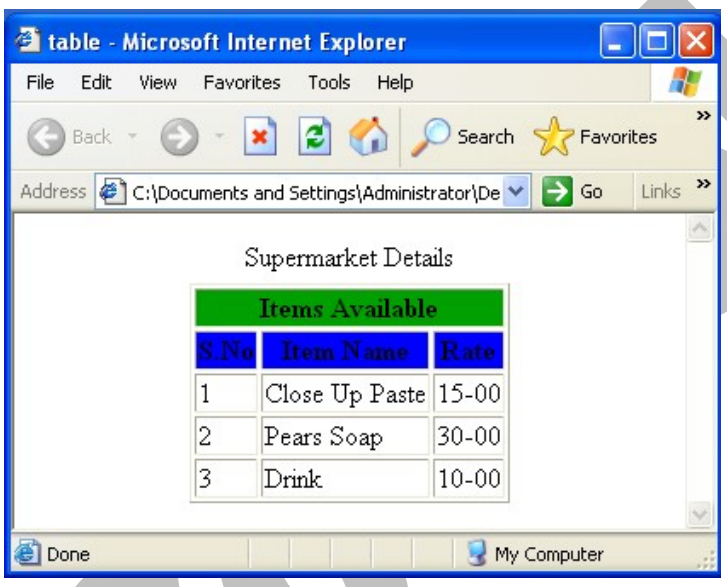
</html>



Complex HTML Tables and Formatting: You can add background color and background images by using bgcolor and background attributes respectively. Spanning of cells is possible that is you can merge some sequence of rows or columns with the help of ROWSPAN or COLSPAN attributes respectively. For example <th COLSPAN=”2”>widened to span two cells. VALIGN attribute is used for vertical alignment formats and it accepts the values “top”, “middle”, “bottom” and “baseline”. Example:

```
<html>
    <head>
        <title> table</title>
    </head>
    <body>
        <center>
```

```
<table border="2">
<caption>Supermarket Details</caption>
<tr>
<th colspan=3 bgcolor="tan" align="center">Items Available</th>
</tr>
<tr><th>S.No<th>Item Name<th>Rate</tr>
<tr><td>1<td>Close Up Paste<td>15-00</tr>
<tr><td>2<td>Pears Soap<td>30-00</tr>
<tr><td>3<td>Drink<td>10-00</tr>
</table>
</center>
</body>
</html>
```

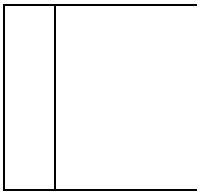


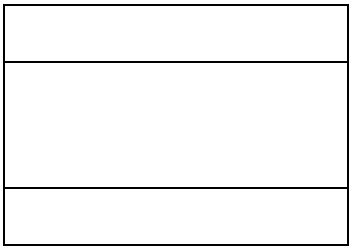
Frames:

Frames provide a pleasing interface which makes your web site easy to navigate. When we talk about frames actually we are referring to frameset, which is a special type of web page.

Simply frameset is nothing but collection of frames. Web page that contains frame element is called framed page. Framed page begins with <frameset> tag and ends with </frameset>. Each individual frame is identified through <frame> tag. Creation of framed page is very simple. You can nest the framesets. First you decide how you want to divide your webpage and accordingly define frame elements.

Consider the following diagrams, first form divides into two columns and the second form divides into three rows





Two columns frameset Three rows frameset

In order to divide into two columns we can use the following syntax

<frameset cols="25%,75%>

<frame name="disp" src="1.html">

<frame name="res" src="2.html">

</frameset>

In the second diagram we have three rows so by using rows parameter of frameset, we can divide logically the window into three rows.

<frameset rows="20%,*,10%>

<frame name="first" src="1.html">

<frame name="second" src="2.html">

<frame name="third" src="3.html">

</frameset>

According to above code, first row occupies 20% of the window, third row occupies 10% of the window, second row * represents remaining area that is 70% of the window.

Nested Framesets: Some times it is required to divide your window into rows and columns, then there is requirement of nested framesets. Frameset with in another frameset is known as nested frameset.

The purpose of NAME parameter in frame tag in the above example is nothing but main importance is if we have some links in left side and you want to display respective pages in the right side frame, then name is essential. Using target parameter of Anchor(A) tag as follows users can specify name of frame.

Example:

First.html

```
<frameset rows="20%,*">
    <frame name="fr1" src="frame1.html">
    <frameset cols="25%,*">
        <frame name="fr2" src="frame2.html">
        <frame name="fr3" src="frame3.html">
    </frameset>
</frameset>
```

Frame1.html

```
<html>
    <body>
        <center><h1> College branches</h1></center>
    </body>
</html>
```

Frame2.html

```
<html>
    <body bgcolor="green">
        <ul>
            <li>CSE
            <li>EEE
        <li>ECE
            <A href="example2.html" target="fr3"><li>IT</A>
        </ul>
    </body>
```

</html>

Frame3.html

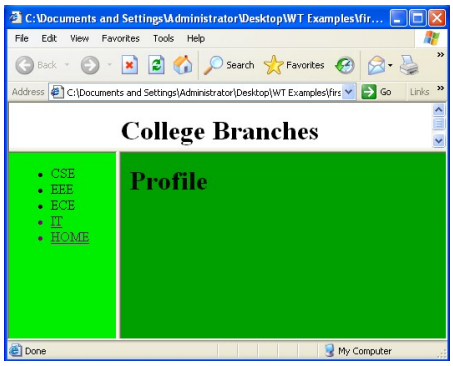
<html>

<body text=”white” bgcolor=”tan”>

<h1>Profile</h1>

</body>

</html>



Forms:

Forms are the best way of adding interactivity of element in a web page. They are usually used to let the user to send information back to the server but can also be used to simplify navigation on complex web sites. The tags that use to implement forms are as follows.

<forms action=”URL” method = “post” | “get”>…….</form>

When get is used, the data is included as part of the URL. The post method encodes the data within the body of the message. Post can be used to send large amount of data, and it is more secure than get. The tags used inside the form tag are:

<input type = “text” | “password” | “checkbox” | “radio” | “submit” name=”string”

value=”string” size=”n”>

In the above tag, the attribute type is used to implement text, password, checkbox, radio and submit button.

Text: It is used to input the characters of the size n and if the value is given than it is used as a default value. It uses single line of text. Each component can be given a separate name using the name attribute.

Password: It works exactly as text, but the content is not displayed to the screen, instead an * is used.

Radio: This creates a radio button. They are always grouped together with a same name but different values.

Checkbox: It provides a simple checkbox, where all the values can be selected unlike radio button.

Submit: This creates a button which displays the value attribute as its text. It is used to send the data to the server.

<select name="string">.....</select>

This tag helps to have a list of item from which a user can choose. The name of the particular select tag and the name of the chosen option are returned.

<option value="string" selected>.....</option>

The select statement will have several options from which the user can choose. The values will be displayed as the user moves through the list and the chosen one returned to the server.

<textarea name="string" rows="n" cols="n">.....</textarea>

This creates a free format of plain text into which the user can enter anything they like. The area will be sized at rows by cols but supports automatic scrolling.

Example 6: HTML code that implements forms

```
<html>

<head>
<title>form</title>

</head>

<body>

<p align="left">Name:<input type="text" maxlength=30 size=15>

<p align="left">Password:<input type="password" maxlenght=10 size=15>

<p align="left">Qualification: <br><input type="checkbox" name="q" value="be">B.E

<input type="checkbox" name="q" value="me">M.E

<p align="left">Gender:<br> <input type="radio" name="g" value="m">Male
```

```
<input type="radio" name="g" value="f">Female

<p align="left">course:<select name="course" size=1>

<option value=cse selected>CSE

<option value=it>CSIT

</select>

<p align="left">Address:<br><textarea name="addr" rows=4 cols=5

scrolling=yes></textarea>

<p align="center"><input type="submit" name="s" value="Accept">

<p align="center"><input type="reset" name="c" value="Ignore">

</body>

</html>
```

Image Maps Explained:

The basic idea behind an image map is that you combine two different components:

- A map of defined linked areas
- An image

The map is overlaid on the image, and the clickable areas coincide with portions of the image. In HTML the image and the clickable areas are coded separately. However, from the visitor's perspective, it appears that portions of the image itself are linked to different destination.

HTML Elements Used to Create Image Maps

There are three HTML elements used to create image maps:

- img: specifies the location of the image to be included in the map.
- map: is used to create the map of clickable areas.
- area: is used within the map element to define the clickable areas.

The shape attribute specifies the shape of an area. The shape attribute is used together with the coords attribute to specify the size, shape, and placement of an area.

Syntax

<area shape="default|rect|circle|poly">

Attribute Values

Value	Description
Default	Specifies the entire region
Rect	Defines a rectangular region
Circle	Defines a circular region
Poly	Defines a polygonal region

```
<!DOCTYPE html>
<html>
<body>
<p>Click on the sun or on one of the planets to watch it closer:</p>
<img src="planets.gif" width="145" height="126" alt="Planets" usemap="#planetmap">
<map name="planetmap">
 <area shape="rect" coords="0,0,82,126" alt="Sun" href="sun.htm">
 <area shape="circle" coords="90,58,3" alt="Mercury" href="mercur.htm">
 <area shape="circle" coords="124,58,8" alt="Venus" href="venus.htm">
</map>
</body>
</html>
```