UNIT-I

Website publishing:

Website publishing is the process of uploading content on the internet. It includes:

- uploading files
- updating web pages
- posting blogs

Website is published by uploading files on the remote server which is provided by the hosting company.

Prerequisites for Website Publishing

In order to publish your site, you need the following things:

- Web development software
- Internet Connection
- Web Server

Web development software

It is used for building web pages for your web site. Dreamweaver and WordPress are example of web development softwares.

Internet Connection

Internet connection is required to connect to a remotely located web server.

Web Server

Web server is the actual location where your website resides on. A web server may host single or multiple sites depending on what hosting service you have paid for.

A domain name is the part of your Internet address that comes after "www". For example, in www.google.com the domain name is google.com.

A domain name becomes your Business Address so care should be taken to select a domain name. Your domain name should be easy to remember and easy to type.

Domain Extensions

The final letter at end of internet address is known as top level domain names. They are called top level because they are read from right to left, and the part after the dot is the highest in a hierarchy.

The following table shows the **Generic** Top-Level Domain names:

Domain	Meaning	
.com	Commercial Business	
.edu	Education	
.gov	government agency	
.int	International Entity	
.mil	military	
.net	Networking organization	
.org	Non profit organization	

Registering Domain Name:

Registering a Domain Name is very simple. You can take following step to get your desired domain name registered:

- Think of a name that justifies your business need. To find out the available names you can enter a name at commercial domain name registrar such as GoDaddy.
- If the domain name entered by you is available, then select that particular domain name.
- Now it will ask you for other additional services such as Email inbox, hosting etc. that host also provides. You may choose what's best for you.
- Now they will ask you for your personal information which is stored in WHOIS database.
- It will then ask for payment information. Pay for the purchase you have made. Make sure you enter the correct payment information.

• Once you are done with all above steps, you are ready to use their tools to upload your stuff to your site.

Domain Name Registrar

There are a number of domain name registrars available in the market. The following table contains some of popular domain name registrars:

S.N.	Domain Name Registrar	
	Address Creation, LLC	
	Addressonthe web, LLC	
	101domains, INC	
	Atomicdomainnames, LLC	
	BigRock Solutions Ltd	
	Black Ice Domain, Inc	
	Block Host LLC	
	Domain Monkeys, LLC	
	Domain Mantra, Inc.	

	DomainName, Inc.	
	Dot Holding Inc.	
	DotMedia Ltd	
	Extend Names, Inc.	
	Extremely Wild	
	Fast Domain Inc.	
	Google Inc	
Wah hagting is a samia	a of maniding online areas for stores of web masse. These web masses	

Web hosting is a service of providing online space for storage of web pages. These web pages are made available via **World Wide Web.** The companies which offer website hosting are known as **Web hosts.**

The servers on which web site is hosted remain switched on 24 x7. These servers are run by web hosting companies. Each server has its own IP address. Since IP addresses are difficult to remember therefore, webmaster points their domain name to the IP address of the server their website is stored on.

It is not possible to host your website on your local computer, to do so you would have to leave your computer on 24 hours a day. This is not practical and cheaper as well. This is where web hosting companies comes in.

Types of Hosting

The following table describes different types of hosting that can be availed as per the need:

S.N.	Hosting Description

1.	Shared Hosting In shared hosting, the hosting company puts thousand of website on the same physical server. Each customer has their own allocation of physical web space and a set of bandwidth limit. As all websites share same physical memory, MYSQL server and Apache server, one website on the ser experiencing high traffic load will affect performance of all websites on the server.	
2.	Virtual Private Server (VPS) It is also known as Virtual Dedicated Server. It is a server which is partitioned into smaller servers this customer is given their own partition, which is installed with its own operating system. Unlike shared hosting, VPS doesn't share memory or processor time rather it allocates certain amount of memory and CPU to use which means that any problem on a VPS partition on the same drive will affect other VPS customers.	
3.	Dedicated Server In this kind of hosting, single dedicated server is setup for just one customer. It is commonly used the businesses that need the power, control and security that a dedicated server offers.	by
4.	Reseller Hosting A reseller acts as a middle man and sells hosting space of someone else's server.	
5.	Grid Hosting Instead of utilizing one server, Grid Hosting spreads resources over a large number of servers. It is quite stable and flexible. The servers can be added or taken away from the grid without crashing the system.	

Web Hosting Companies

Following are the several companies offering web hosting service:

S.N.	Hosting Company	
1.	Blue Host	
2.	Go Daddy	
3.	Host Gator	
4.	just Host	
5.	Laughing Squid	

6.	Hivelocity	
7.	liquid Web	
8.	Media TempleServInt	
9.	Wired Tree	
10.	Wild West Domains	
11.	Wix	
12.	WIPL	
13.	Big Rock	

Web Browser

web Browser is an application software that allows us to view and explore information on the web. User can request for any web page by just entering a URL into address bar.

Web browser can show text, audio, video, animation and more. It is the responsibility of a web browser to interpret text and commands contained in the web page.

Earlier the web browsers were text-based while now a days graphical-based or voice-based web browsers are also available. Following are the most common web browser available today:

Browser	Vendor	
Internet Explorer	Microsoft	
Google Chrome	Google	
Mozilla Firefox	Mozilla	

Netscape Navigator	Netscape Communications Corp.
Opera	Opera Software
Safari	Apple
Sea Monkey	Mozilla Foundation
K-meleon	K-meleon

There are a lot of web browser available in the market. All of them interpret and display information on the screen however their capabilities and structure varies depending upon implementation. But the most basic component that all web browser must exhibit are listed below:

- Controller/Dispatcher
- Interpreter
- Client Programs

Controller works as a control unit in CPU. It takes input from the keyboard or mouse, interpret it and make other services to work on the basis of input it receives.

Interpreter receives the information from the controller and execute the instruction line by line. Some interpreter are mandatory while some are optional For example, HTML interpreter program is mandatory and java interpreter is optional.

Client Program describes the specific protocol that will be used to access a particular service. Following are the client programs tat are commonly used:

- HTTP
- SMTP
- FTP
- NNTP
- POP

INTRODUCTION TO HTML:

HTML stands for **Hyper Text Markup Language** which is used for creating web pages and web applications. Let's see what is meant by Hypertext Markup Language, and Web page.

Hyper Text: HyperText simply means "Text within Text." A text has a link within it, is a hypertext. Whenever you click on a link which brings you to a new webpage, you have clicked on a hypertext. HyperText is a way to link two or more web pages (HTML documents) with each other.

Markup language: A markup language is a computer language that is used to apply layout and formatting conventions to a text document. Markup language makes text more interactive and dynamic. It can turn text into images, tables, links, etc.

Web Page: A web page is a document which is commonly written in HTML and translated by a web browser. A web page can be identified by entering an URL. A Web page can be of the static or dynamic type. **With the help of HTML only, we can create static web pages**

Hence, HTML is a markup language which is used for creating attractive web pages with the help of styling, and which looks in a nice format on a web browser. An HTML document is made of many HTML tags and each HTML tag contains different content.

Brief History of HTML

In the late 1980's , a physicist, Tim Berners-Lee who was a contractor at CERN, proposed a system for CERN researchers. In 1989, he wrote a memo proposing an internet based hypertext system.

Tim Berners-Lee is known as the father of HTML. The first available description of HTML was a document called "HTML Tags" proposed by Tim in late 1991. The latest version of HTML is HTML5

HTML Versions

Since the time HTML was invented there are lots of HTML versions in market, the brief introduction about the HTML version is given below:

HTML 1.0: The first version of HTML was 1.0, which was the barebones version of HTML language, and it was released in 1991.

HTML 2.0: This was the next version which was released in 1995, and it was standard language version for website design. HTML 2.0 was able to support extra features such as form-based file upload, form elements such as text box, option button, etc.

- **HTML 3.2:** HTML 3.2 version was published by W3C in early 1997. This version was capable of creating tables and providing support for extra options for form elements. It can also support a web page with complex mathematical equations. It became an official standard for any browser till January 1997. Today it is practically supported by most of the browsers.
- **HTML 4.01:** HTML 4.01 version was released on December 1999, and it is a very stable version of HTML language. This version is the current official standard, and it provides added support for stylesheets (CSS) and scripting ability for various multimedia elements.

HTML5: HTML5 is the newest version of HyperText Markup language. The first draft of this version was announced in January 2008. There are two major organizations one is W3C (World Wide Web Consortium), and another one is WHATWG(Web Hypertext Application Technology Working Group) which are involved in the development of HTML 5 version, and still, it is under development.

Features of HTML

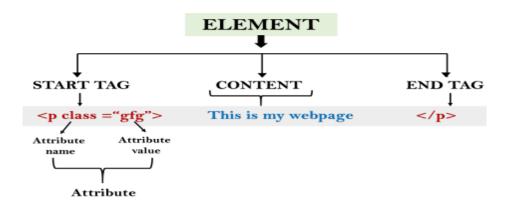
- 1) It is a very **easy and simple language**. It can be easily understood and modified.
- 2) It is very easy to make an **effective presentation** with HTML because it has a lot of formatting tags.
- 3) It is a markup language, so it provides a flexible way to design web pages along with the text.
- 4) It facilitates programmers to add a **link** on the web pages (by html anchor tag), so it enhances the interest of browsing of the user.
- 5) It is **platform-independent** because it can be displayed on any platform like Windows, Linux, and Macintosh, etc.
- 6) It facilitates the programmer to add **Graphics, Videos, and Sound** to the web pages which makes it more attractive and interactive.
- 7) HTML is a case-insensitive language, which means we can use tags either in lower-case or upper-case.

Building blocks of HTML

An HTML document consist of its basic building blocks which are:

- Tags: An HTML tag surrounds the content and apply meaning to it. It is written between < and > brackets.
- o **Attribute:** An attribute in HTML provides extra information about the element, and it is applied within the start tag. An HTML attribute contains two fields: name & value.

Elements: An HTML element is an individual component of an HTML file. In an HTML file, everything written within tags are termed as HTML elements.



HTML Tags

HTML tags are like keywords which defines that how web browser will format and display the content. With the help of tags, a web browser can distinguish between an HTML content and a simple content. HTML tags contain three main parts: opening tag, content and closing tag. But some HTML tags are unclosed tags.

When a web browser reads an HTML document, browser reads it from top to bottom and left to right. HTML tags are used to create HTML documents and render their properties. Each HTML tags have different properties.

An HTML file must have some essential tags so that web browser can differentiate between a simple text and HTML text. You can use as many tags you want as per your code requirement.

- All HTML tags must enclosed within <> these brackets.
- Every tag in HTML perform different tasks.
- If you have used an open tag <tag>, then you must use a close tag </tag> (except some tags)

Syntax

<tag> content </tag>

HTML Attribute

o HTML attributes are special words which provide additional information about the elements or attributes are the modifier of the HTML element.

- o Each element or tag can have attributes, which defines the behaviour of that element.
- Attributes should always be applied with start tag.
- o The Attribute should always be applied with its name and value pair.
- The Attributes name and values are case sensitive, and it is recommended by W3C that it should be written in Lowercase only.
- You can add multiple attributes in one HTML element, but need to give space between two attributes.

Syntax:

<element attribute_name="value">content</element>

Example

Output:

- <!DOCTYPE html>
 <html>
 <head>
 <body>
 <h1> This is Style attribute </h1>
 It will add style property in element
 It will change the color of content
 </body>
 </html>
 - This is Style attribute

 It will add style property in element

It will change the color of content

HTML Elements:

An HTML file is made of elements. These elements are responsible for creating web pages and define content in that webpage. An element in HTML usually consist of a start tag <tag name>, close tag </tag name> and content inserted between them. Technically, an element is a collection of start tag, attributes, end tag, content between them.

Example

1. <!DOCTYPE html> 2. <html> 3. <head> 4. <title>WebPage</title> 5. </head> 6. <body> 7. <h1>This is my first web page</h1> <h2> How it looks?</h2> 8. It looks Nice!!!!! 10. </body> 11. </html> ☐ WebPage ← → C ① File | file:///D:/HTML/index1.html



How it looks?

It looks Nice!!!!!

All the content written between body elements are visible on web page.

HTML Document Structure

Here you will learn about document structure of an HTML document. The figure given below shows the general structure of an HTML document.

```
<html>
<html>
<head>
<title>Title</title>
</head>

<body>
<h1>Main Heading</h1>
Paragraph
<h2>Sub Heading</h2>
Paragraph
</body>
</html>
```

Texts between the BODY tag (<body> and </body>) will be displayed in or by the browser.

Basic Structure of an HTML Document

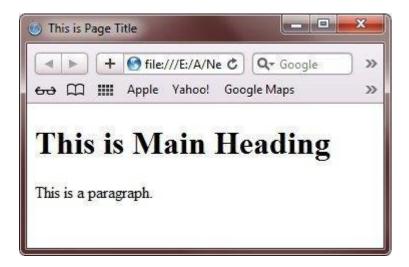
Here is an example shows the basic structure of an HTML document.

```
<!DOCTYPE html>
<html>
<head>
    <title>This is Page Title</title>
</head>
<body>
<h1>This is Main Heading</h1>
This is a paragraph.
</body>
</html>
```

To start HTML coding, open your text editor like Notepad for windows user. Type the above HTML code or just do copy and paste.

After typing/copying, save it as filename.htm or filename.html in you computer. Now open saved HTML document in a web browser to watch output webpage.

You will watch the following given HTML output webpage on your browser.



Here is the explanation of the above HTML document structure example:

- The **DOCTYPE** declaration defines the document type to be HTML
- The text between <html> and </html> describes an HTML document
- The text between <head> and </head> provides information about the HTML document
- The text between **<title>** and **</title>** provides a title for the HTML document
- The text between **<body>** and **</body>** describes the visible page content i.e. the content which is visible in the browser.
- The text between <h1> and </h1> describes the main heading
- The text between and describes a paragraph

HTML BASIC TAGS:

HTML Heading

A HTML heading or HTML h tag can be defined as a title or a subtitle which you want to display on the webpage. When you place the text within the heading tags <h1>....... </h1>, it is displayed on the browser in the bold format and size of the text depends on the number of heading.

There are six different HTML headings which are defined with the <h1> to <h6> tags, from highest level h1 (main heading) to the least level h6 (least important heading).

h1 is the largest heading tag and h6 is the smallest one. So h1 is used for most important heading and h6 is used for least important.

Example

OUTPUT:

This is heading 1

This is heading 2

This is heading 3

This is heading 4

This is heading 5

This is heading 6

Paragraph Tag

The tag offers a way to structure your text into different paragraphs. Each paragraph of text should go in between an opening and a closing tag as shown below in the example –

Line Break Tag:

Whenever you use the **
br />** element, anything following it starts from the next line. This tag is an example of an **empty** element, where you do not need opening and closing tags, as there is nothing to go in between them.

The
br /> tag has a space between the characters **br** and the forward slash. If you omit this space, older browsers will have trouble rendering the line break, while if you miss the forward slash character and just use
br> it is not valid in XHTML.

Example

Center tag:

You can use <center> tag to put any content in the center of the page or any table cell.

Example

Horizontal Lines

Horizontal lines are used to visually break-up sections of a document. The **<hr>** tag creates a line from the current position in the document to the right margin and breaks the line accordingly.

For example, you may want to give a line between two paragraphs as in the given example below

HTML Text Formatting Tags:

Formatting elements were designed to display special types of text:

- **** Bold text
- Important text
- <i>- Italic text
- Emphasized text
- <mark> Marked text
- <small> Smaller text
- Deleted text
- <ins> Inserted text
- <sub> Subscript text
- <sup> Superscript text

<**b>tag:** Γhe HTM

The HTML
b> element defines bold text, without any extra importance.

Example:

```
<!DOCTYPE html>
```

<html>

<body>

This text is normal.

This text is bold.

</body>

</html>

Output:

This text is normal.

This text is bold.

 tag:

The HTML element defines text with strong importance. The content inside is typically displayed in bold.

Example:

```
<!DOCTYPE html>
```

<html>

<body>

This text is normal.

This text is important!

</body>

</html>

Output:

This text is normal.

This text is important!

<i> tag:

The HTML <i> element defines a part of text in an alternate voice or mood. The content inside is typically displayed in italic.

Example:

<!DOCTYPE html>

<html>

<body>

```
This text is normal.
<i>This text is italic.</i>
</body>
</html>
Output:
This text is normal.
This text is italic.
<small> tag:
The HTML <small> element defines smaller text
Example:
<!DOCTYPE html>
<html>
<body>
This is some normal text.
<small>This is some smaller text.</small>
</body>
</html>
Output:
 This is some normal text.
 This is some smaller text.
<mark> Element:
The HTML <mark> element defines text that should be marked or highlighted
Example:
<!DOCTYPE html>
<html>
```

Do not forget to buy <mark>milk</mark> today.

<body>

</body>

Output:

Do not forget to buy milk today.

 Element:

The HTML element defines text that has been deleted from a document. Browsers will usually strike a line through deleted text

Example:

```
<!DOCTYPE html>
```

<html>

<body>

My favorite color is blue red.

</body>

</html>

Output:

My favorite color is blue red.

<ins> Element:

The HTML <ins> element defines a text that has been inserted into a document. Browsers will usually underline inserted text

Example:

<!DOCTYPE html>

<html>

<body>

My favorite color is blue <ins>green</ins>.

</body>

</html>

Output:

My favorite color is blue green.

<sub> Element:

The HTML <sub> element defines subscript text. Subscript text appears half a character below the normal line, and is sometimes rendered in a smaller font. Subscript text can be used for chemical formulas, like H₂O

Example:

```
<!DOCTYPE html>
<html>
<body>
This is <sub>subscripted</sub> text.
</body>
</html>

Output:

This is subscripted text.
```

<sup> Element :

The HTML <sup> element defines superscript text. Superscript text appears half a character above the normal line, and is sometimes rendered in a smaller font. Superscript text can be used for footnotes, like WWW^[1]

Example:

<!DOCTYPE html>

<html>

<body>

This is ^{superscripted} text.

</body>

</html>

Output:

This is ^{superscripted} text.

Semantic elements in HTML5:

Semantic elements = elements with a meaning

A semantic element clearly describes its meaning to both the browser and the developer.

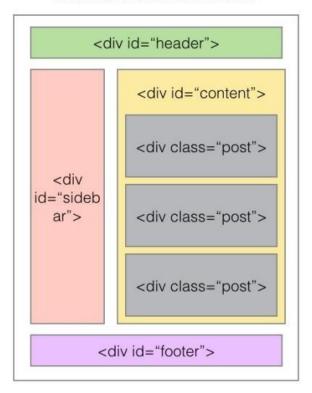
Examples of **non-semantic** elements: <div> and - Tells nothing about its content.

Examples of **semantic** elements: <form>, , and <article> - Clearly defines its content.

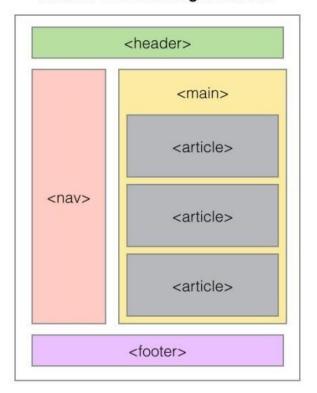
Many web sites contain HTML code like: <div id="nav"> <div class="header"> <div id="footer"> to indicate navigation, header, and footer.

In HTML there are some semantic elements that can be used to define different parts of a web page

HTML4: Lots of Classes/IDs



HTML5: Semantic Tags/Sections



HTML < section > Element:

The <section> element defines a section in a document.

According to W3C's HTML documentation: "A section is a thematic grouping of content, typically with a heading."

Examples of where a <section> element can be used:

- Chapters
- Introduction
- News items
- Contact information

A web page could normally be split into sections for introduction, content, and contact information

Example:

Two sections in a document:

<!DOCTYPE html>

<html>

```
<body>
<section>
<h1>WWF</h1>
```

The World Wide Fund for Nature (WWF) is an international organization working on issues regarding the conservation, research and restoration of the environment, formerly named the World Wildlife Fund. WWF was founded in 1961.

```
</section>
```

<section>

<h1>WWF's Panda symbol</h1>

The Panda has become the symbol of WWF. The well-known panda logo of WWF originated from a panda named Chi Chi that was transferred from the Beijing Zoo to the London Zoo in the same year of the establishment of WWF.

</section>

</body>

</html>

Output:

WWF

The World Wide Fund for Nature (WWF) is an international organization working on issues regarding the conservation, research and restoration of the environment, formerly named the World Wildlife Fund. WWF was founded in 1961.

WWF's Panda symbol

The Panda has become the symbol of WWF. The well-known panda logo of WWF originated from a panda named Chi Chi that was transferred from the Beijing Zoo to the London Zoo in the same year of the establishment of WWF.

HTML <article> Element:

The <article> element specifies independent, self-contained content.

An article should make sense on its own, and it should be possible to distribute it independently from the rest of the web site.

Examples of where the <article> element can be used:

- Forum posts
- Blog posts
- User comments
- Product cards
- Newspaper articles

Example

Three articles with independent, self-contained content:

```
<!DOCTYPE html>
<html>
<body>
<h1>The article element</h1>
<article>
 <h2>Google Chrome</h2>
 Google Chrome is a web browser developed by Google, released in 2008. Chrome is the
world's most popular web browser today!
</article>
<article>
 <h2>Mozilla Firefox</h2>
 Mozilla Firefox is an open-source web browser developed by Mozilla. Firefox has been the
second most popular web browser since January, 2018.
</article>
<article>
 <h2>Microsoft Edge</h2>
 Microsoft Edge is a web browser developed by Microsoft, released in 2015. Microsoft Edge
replaced Internet Explorer.
</article>
</body>
</html>
```

Output:

The article element

Google Chrome

Google Chrome is a web browser developed by Google, released in 2008. Chrome is the world's most popular web browser today!

Mozilla Firefox

Mozilla Firefox is an open-source web browser developed by Mozilla. Firefox has been the second most popular web browser since January, 2018.

Microsoft Edge

Microsoft Edge is a web browser developed by Microsoft, released in 2015. Microsoft Edge replaced Internet Explorer.

HTML <header> Element

The <header> element represents a container for introductory content or a set of navigational links.

A <header> element typically contains:

- one or more heading elements (<h1> <h6>)
- logo or icon
- authorship information

```
Note: You can have several <header> elements in one HTML document. However, <header> cannot be placed within a <footer>, <address> or another <header> element
```

Output:

What Does WWF Do?

WWF's mission:

WWF's mission is to stop the degradation of our planet's natural environment, and build a future in which humans live in harmony with nature.

HTML <footer> Element

The <footer> element defines a footer for a document or section.

A <footer> element typically contains:

- authorship information
- copyright information
- contact information
- sitemap
- back to top links
- related documents

You can have several <footer> elements in one document

Example

```
A footer section in a document:
```

```
<!DOCTYPE html>
<html>
<body>
<footer>
Author: Hege Refsnes
<a href="mailto:hege@example.com">hege@example.com</a>
```

```
</footer>
</body>
```

</html>

Output:

```
Author: Hege Refsnes

hege@example.com
```

HTML <nav> Element:

The <nav> element defines a set of navigation links

```
Example
A set of navigation links:
<!DOCTYPE html>
<html>
<body>
<nav>
<a href="/html/">HTML</a> |
<a href="/css/">CSS</a> |
<a href="/js/">JavaScript</a> |
<a href="/jquery/">jQuery</a> </nav>
</body>
</html>
```

Output:

```
\underline{HTML} \mid \underline{CSS} \mid \underline{JavaScript} \mid \underline{jQuery}
```

HTML <aside> Element:

The <aside> element defines some content aside from the content it is placed in (like a sidebar). The <aside> content should be indirectly related to the surrounding content.

Example

Display some content aside from the content it is placed in:

```
<!DOCTYPE html>
```

<html>

<body>

My family and I visited The Epcot center this summer. The weather was nice, and Epcot was amazing! I had a great summer together with my family!

<aside>

<h4>Epcot Center</h4>

Epcot is a theme park at Walt Disney World Resort featuring exciting attractions, international pavilions, award-winning fireworks and seasonal special events

.

</aside>

 $<\!\!$ body>

</html>

Output:

My family and I visited The Epcot center this summer. The weather was nice, and Epcot was amazing! I had a great summer together with my family!

Epcot Center

Epcot is a theme park at Walt Disney World Resort featuring exciting attractions, international pavilions, award-winning fireworks and seasonal special events.

HTML Links – Hyperlinks:

HTML links are hyperlinks.

You can click on a link and jump to another document.

When you move the mouse over a link, the mouse arrow will turn into a little hand.

Note: A link does not have to be text. A link can be an image or any other HTML element

HTML Links – Syntax:

The HTML <a> tag defines a hyperlink.

It has the following syntax:

```
<a href="url">link text</a>
```

The most important attribute of the <a> element is the href attribute, which indicates the link's destination.

The *link text* is the part that will be visible to the reader.

Clicking on the link text, will send the reader to the specified URL address

This example shows how to create a link to mallareddyuniversity.ac.in:

Visit mallareddyuniversity.ac.in!

By default, links will appear as follows in all browsers:

- An unvisited link is underlined and blue
- A visited link is underlined and purple

• An active link is underlined and red

HTML Links - The target Attribute:

By default, the linked page will be displayed in the current browser window. To change this, you must specify another target for the link.

The target attribute specifies where to open the linked document.

The target attribute can have one of the following values:

- _self Default. Opens the document in the same window/tab as it was clicked
- _blank Opens the document in a new window or tab
- _parent Opens the document in the parent frame
- _top Opens the document in the full body of the window

HTML Links - Use an Image as a Link:

To use an image as a link, just put the tag inside the <a> tag

Example

```
<a href="default.asp">
<img src="smiley.gif" alt="HTML tutorial">
</a>
```

Link to an Email Address

Use mailto: inside the href attribute to create a link that opens the user's email program (to let them send a new email)

Example:

```
<a href="mailto:someone@example.com">Send email</a>
```

Images:

Images can improve the design and the appearance of a web page.

The HTML tag is used to embed an image in a web page.

Images are not technically inserted into a web page; images are linked to web pages. The tag creates a holding space for the referenced image.

The tag is empty, it contains attributes only, and does not have a closing tag.

The tag has two required attributes:

- src Specifies the path to the image
- alt Specifies an alternate text for the image

Syntax

```
<img src="url" alt="alternatetext">
```

The src Attribute

The required src attribute specifies the path (URL) to the image.

Note: When a web page loads, it is the browser, at that moment, that gets the image from a web server and inserts it into the page. Therefore, make sure that the image actually stays in the same spot in relation to the web page, otherwise your visitors will get a broken link icon. The broken link icon and the alt text are shown if the browser cannot find the image.

Example

```
<img src="img_chania.jpg" alt="Flowers in Chania">
```

The alt Attribute

The required alt attribute provides an alternate text for an image, if the user for some reason cannot view it (because of slow connection, an error in the src attribute, or if the user uses a screen reader).

The value of the alt attribute should describe the image:

Example

```
<img src="img_chania.jpg" alt="Flowers in Chania">
```

If a browser cannot find an image, it will display the value of the alt attribute:

Example

```
<img src="wrongname.gif" alt="Flowers in Chania">
```

Image Size - Width and Height

You can use the style attribute to specify the width and height of an image.

Example

```
<img src="img_girl.jpg" alt="Girl in a jacket" style="width:500px;height:600px;">
```

Alternatively, you can use the width and height attributes:

Example

```
<img src="img_girl.jpg" alt="Girl in a jacket" width="500" height="600">
```

The width and height attributes always define the width and height of the image in pixels.

Note: Always specify the width and height of an image. If width and height are not specified, the web page might flicker while the image loads.

HTML Lists:

HTML Lists are used to specify lists of information. All lists may contain one or more list elements. There are three different types of HTML lists:

- 1. Ordered List or Numbered List (ol)
- 2. Unordered List or Bulleted List (ul)
- 3. Description List or Definition List (dl)

HTML Ordered List or Numbered List:

In the ordered HTML lists, all the list items are marked with numbers by default. It is known as numbered list also. The ordered list starts with tag and the list items start with tag

```
Example:
<!DOCTYPE html>
<html>
<head>
<title>HTML ordered List</title>
</head>
<body>

SOE
SOA
SOMs
```

SOS

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

Output:

```
1. SOE
2. SOA
3. SOMs
4. SOS
```

The type Attribute

You can use **type** attribute for tag to specify the type of numbering you like. By default, it is a number. Following are the possible options —

```
     - Default-Case Numerals.
     - Upper-Case Numerals.
     - Lower-Case Numerals.
     - Upper-Case Letters.
     - Lower-Case Letters.
```

Example:

Output:

```
A. SOE
B. SOA
C. SOMs
D. SOS
```

The start Attribute

You can use **start** attribute for tag to specify the starting point of numbering you need. Following are the possible options —

```
 - Numerals starts with 4.
 - Numerals starts with IV.
 - Numerals starts with iv.
 - Letters starts with d.

    type = "A" start = "4"> - Letters starts with D.

Example:
<!DOCTYPE html>
<html>
 <head>
  <title>HTML unordered List</title>
 </head>
 <body>
  SOE
   SOA
   SOMs
   SOS
  </body>
 </html>
```

Output:

C. SOE D. SOA E. SOMs F. SOS

HTML Unordered Lists

An unordered list is a collection of related items that have no special order or sequence. This list is created by using HTML **tag.** Each item in the list is marked with a bullet.

Example

```
<!DOCTYPE html>
<html>
    <head>
        <title>HTML unordered List</title>
        </head>
        <body>

                    SOE
                    SOA
                    SOA
                    SOA
                    SOA
```

```
SOMs
SOS

</body>
</html>
```

Output:

- SOE
- SOA
- SOMs
- SOS

The type Attribute

```
You can use type attribute for  tag to specify the type of bullet you like. By default, it is a disc. Following are the possible options –
```

```
Syntax:
Example:
<!DOCTYPE html>
<html>
<head>
 <title>HTML unordered List</title>
</head>
<body>
 SOE
  SOA
  SOMs
  SOS
 </body>
</html>
```

Output:

- SOE
- SOA
- SOMs
- SOS

HTML Definition Lists

HTML and XHTML supports a list style which is called **definition lists** where entries are listed like in a dictionary or encyclopedia. The definition list is the ideal way to present a glossary, list of terms, or other name/value list.

Definition List makes use of following three tags.

- <dl> Defines the start of the list
- $\langle dt \rangle$ A term
- <dd> Term definition
- </dl> Defines the end of the list

Example:

Output:

```
HTML
This stands for Hyper Text Markup Language
HTTP
This stands for Hyper Text Transfer Protocol
```

HTML Table:

HTML table tag is used to display data in tabular form (row * column). There can be many columns in a row.

We can create a table to display data in tabular form, using element, with the help of , , and elements.

In Each table, table row is defined by > tag, table header is defined by , and table data is defined by tags.

HTML tables are used to manage the layout of the page

HTML Table Tags:

Tag	Description
	It defines a table.
	It defines a row in a table.
	It defines a header cell in a table.
	It defines a cell in a table.
<caption></caption>	It defines the table caption.
<colgroup></colgroup>	It specifies a group of one or more columns in a table for formatting.
<col/>	It is used with <colgroup> element to specify column properties for each column.</colgroup>
	It is used to group the body content in a table.
<thead></thead>	It is used to group the header content in a table.
<tfooter></tfooter>	It is used to group the footer content in a table.

Example:

```
101
 Raju
 8.3
 102
 Rani
 8.8
 103
 Venkat
 7
 <center>
</body>
</html>
```

Output:

STUDENT DETAILS

Hallticket no	Student Name	GPA
101	Raju	8.3
102	Rani	8.8
103	Venkat	7

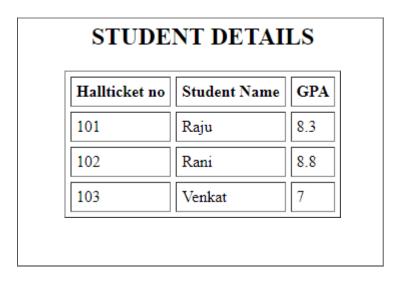
Cellpadding and Cellspacing Attributes:

There are two attributes called *cellpadding* and *cellspacing* which you will use to adjust the white space in your table cells. The cellspacing attribute defines space between table cells, while cellpadding represents the distance between cell borders and the content within a cell

```
<center>
  <h2>STUDENT DETAILS</h2>
Hallticket no
 Student Name
 GPA
 101
 Raju
 8.3
 102
 Rani
 8.8
 103
 Venkat
 7
 <center>
</body>
</html>
```

37

Output:



Colspan and Rowspan Attributes:

You will use **colspan** attribute if you want to merge two or more columns into a single column. Similar way you will use **rowspan** if you want to merge two or more rows.

```
Example:
<!DOCTYPE html>
<html>
<head>
 <title>HTML Table Colspan/Rowspan</title>
</head>
<body>
 Column 1
   Column 2
   Column 3
  Row 1 Cell 1
   Row 1 Cell 2
   Row 1 Cell 3
  Row 2 Cell 2
   Row 2 Cell 3
  Row 3 Cell 1
  </body>
```

Column 1	Column 2	Column 3
HP over 1 Call H	Row 1 Cell 2	
	Row 2 Cell 2	Row 2 Cell 3
Row 3 Cell 1		

In the above output column1 row1,row2 cells are merged by using rowspan attribute, row3 is merged by using colspan attribute

FRAMES:

HTML frames are used to divide your browser window into multiple sections where each section can load a separate HTML document. A collection of frames in the browser window is known as a frameset. The window is divided into frames in a similar way the tables are organized: into rows and columns.

Disadvantages of Frames

There are few drawbacks with using frames, so it's never recommended to use frames in your webpages –

- Some smaller devices cannot cope with frames often because their screen is not big enough to be divided up.
- Sometimes your page will be displayed differently on different computers due to different screen resolution.
- The browser's *back* button might not work as the user hopes.
- There are still few browsers that do not support frame technology.

Creating Frames:

To use frames on a page we use <frameset> tag instead of <body> tag. The <frameset> tag defines, how to divide the window into frames. The **rows** attribute of <frameset> tag defines horizontal frames and **cols** attribute defines vertical frames. Each frame is indicated by <frame> tag and it defines which HTML document shall open into the frame.

Note – The <frame> tag deprecated in HTML5. Do not use this element.

The <frame> Tag Attributes:

Following are the important attributes of <frame> tag -

Sr.No	Attribute & Description
1	Src This attribute is used to give the file name that should be loaded in the frame. Its value can be any URL. For example, src = "/html/top_frame.htm" will load an HTML file available in html directory.
2	Name This attribute allows you to give a name to a frame. It is used to indicate which frame a document should be loaded into. This is especially important when you want to create links in one frame that load pages into an another frame, in which case the second frame needs a name to identify itself as the target of the link.
3	Frameborder This attribute specifies whether or not the borders of that frame are shown; it overrides the value given in the frameborder attribute on the <frameset> tag if one is given, and this can take values either 1 (yes) or 0 (no).</frameset>
4	Marginwidth This attribute allows you to specify the width of the space between the left and right of the frame's borders and the frame's content. The value is given in pixels. For example marginwidth = "10".
5	Marginheight This attribute allows you to specify the height of the space between the top and bottom of the frame's borders and its contents. The value is given in pixels. For example marginheight = "10".
6	noresize By default, you can resize any frame by clicking and dragging on the borders of a frame. The noresize attribute prevents a user from being able to resize the frame. For example noresize = "noresize".
7	scrolling This attribute controls the appearance of the scrollbars that appear on the frame. This takes values either "yes", "no" or "auto". For example

	scrolling = "no" means it should not have scroll bars.	
8	longdesc This attribute allows you to provide a link to another page containing a long description of the contents of the frame. For example longdesc = "framedescription.htm"	

The <frameset> Tag Attributes

Following are important attributes of the <frameset> tag -

Sr.No	Attribute & Description
1	Specifies how many columns are contained in the frameset and the size of each column. You can specify the width of each column in one of the four ways – Absolute values in pixels. For example, to create three vertical frames, use $cols = "100, 500, 100"$. A percentage of the browser window. For example, to create three vertical frames, use $cols = "10\%, 80\%, 10\%"$. Using a wildcard symbol. For example, to create three vertical frames, use $cols = "10\%, *, 10\%"$. In this case wildcard takes remainder of the window. As relative widths of the browser window. For example, to create three vertical frames, use $cols = "3*, 2*, 1*"$. This is an alternative to percentages. You can use relative widths of the browser window. Here the window is divided into sixths: the first column takes up half of the window, the second takes one third, and the third takes one sixth.
2	Rows This attribute works just like the cols attribute and takes the same values, but it is used to specify the rows in the frameset. For example, to create two horizontal frames, use $rows = "10\%, 90\%"$. You can specify the height of each row in the same way as explained above for columns.
3	Border This attribute specifies the width of the border of each frame in pixels. For example, border = "5". A value of zero means no border.
4	Frameborder

	This attribute specifies whether a three-dimensional border should be displayed between frames. This attribute takes value either 1 (yes) or 0 (no). For example frameborder = "0" specifies no border.	
5	Framespacing This attribute specifies the amount of space between frames in a frameset. This can take any integer value. For example framespacing = "10" means there should be 10 pixels spacing between each frames.	

IFRAMES:

You can define an inline frame with HTML tag **<iframe>**. The <iframe> tag is not somehow related to <frameset> tag, instead, it can appear anywhere in your document. The <iframe> tag defines a rectangular region within the document in which the browser can display a separate document, including scrollbars and borders. An inline frame is used to embed another document within the current HTML document.

The **src** attribute is used to specify the URL of the document that occupies the inline frame.

The <Iframe> Tag Attributes:

Most of the attributes of the <iframe> tag, including name, class, frameborder, id, longdesc, marginheight, marginwidth, name, scrolling, style, and title behave exactly like the corresponding attributes for the <frame> tag.

Note – The *frameborder*, *marginwidth*, *longdesc*, *scrolling*, *marginheight* attributes deprecated in HTML5. Do not use these attributes.

Sr.No	Attribute & Description
1	Src This attribute is used to give the file name that should be loaded in the frame. Its value can be any URL. For example, src = "/html/top_frame.htm" will load an HTML file available in html directory.
2	Name This attribute allows you to give a name to a frame. It is used to indicate which

	frame a document should be loaded into. This is especially important when you want to create links in one frame that load pages into an another frame, in which case the second frame needs a name to identify itself as the target of the link.
3	Frameborder This attribute specifies whether or not the borders of that frame are shown; it overrides the value given in the frameborder attribute on the <frameset> tag if one is given, and this can take values either 1 (yes) or 0 (no).</frameset>
4	Marginwidth This attribute allows you to specify the width of the space between the left and right of the frame's borders and the frame's content. The value is given in pixels. For example marginwidth = "10".
5	Marginheight This attribute allows you to specify the height of the space between the top and bottom of the frame's borders and its contents. The value is given in pixels. For example marginheight = "10".
6	Height This attribute specifies the height of <iframe>.</iframe>
7	Scrolling This attribute controls the appearance of the scrollbars that appear on the frame. This takes values either "yes", "no" or "auto". For example scrolling = "no" means it should not have scroll bars.
8	Longdesc This attribute allows you to provide a link to another page containing a long description of the contents of the frame. For example longdesc = "framedescription.htm"
9	Width This attribute specifies the width of <iframe>.</iframe>

Example: <!DOCTYPE html> <html> <head>

Document content goes here...



Document content also go here...

FORMS:

An **HTML form** is *a section of a document* which contains controls such as text fields, password fields, checkboxes, radio buttons, submit button, menus etc.

An HTML form facilitates the user to enter data that is to be sent to the server for processing such as name, email address, password, phone number, etc.

HTML forms are required if you want to collect some data from of the site visitor.

For example: If a user want to purchase some items on internet, user must fill the form such as shipping address and credit/debit card details so that item can be sent to the given address.

HTML Form Syntax:

```
<form action="server url" method="get|post">

//input controls e.g. textfield, textarea, radiobutton, button
</form>
```

HTML Form Tags:

Let's see the list of HTML 5 form tags.

Tag	Description
<form></form>	It defines an HTML form to enter inputs by the used side.
<input/>	It defines an input control.
<textarea></td><td>It defines a multi-line input control.</td></tr><tr><td><label></td><td>It defines a label for an input element.</td></tr><tr><td><fieldset></td><td>It groups the related element in a form.</td></tr><tr><td><legend></td><td>It defines a caption for a <fieldset> element.</td></tr><tr><td><select></td><td>It defines a drop-down list.</td></tr><tr><td><optgroup></td><td>It defines a group of related options in a drop-down list.</td></tr><tr><td><option></td><td>It defines an option in a drop-down list.</td></tr><tr><td><button></td><td>It defines a clickable button.</td></tr></tbody></table></textarea>	

HTML <input> element:

The HTML <input> element is fundamental form element. It is used to create form fields, to take input from user. We can apply different input filed to gather different information form user. Following is the example to show the simple text input.

HTML TextField:

The type="text" attribute of input tag creates textfield control also known as single line textfield control. The name attribute is optional, but it is required for the server side component such as JSP, ASP, PHP etc.

First name:

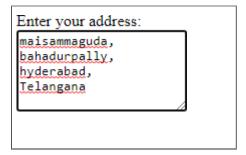
Last name:

HTML <textarea> tag in form:

The <textarea> tag in HTML is used to insert multiple-line text in a form. The size of <textarea> can be specify either using "rows" or "cols" attribute

Example:

```
<!DOCTYPE html>
<html>
<head>
    <title>Form in HTML</title>
</head>
<body>
    <form>
        Enter your address:<br>
        <textarea rows="5" cols="20"></textarea>
        </form>
</body>
</html>
```



Label Tag in Form:

It is considered better to have label in form. As it makes the code parser/browser/user friendly. If you click on the label tag, it will focus on the text control. To do so, you need to have for attribute in label tag that must be same as id attribute of input tag.

Example:
html
<html></html>
<head></head>
<title>Form in HTML</title>
<body></body>
<form></form>
<label for="firstname">First Name: </label>
<pre><input id="firstname" name="firstname" type="text"/> </pre>
<label for="lastname">Last Name: </label>
<pre><input id="lastname" name="lastname" type="text"/> </pre>
Output
First Name:
Last Name:

HTML Password Field:

This is also a single-line text input but it masks the character as soon as a user enters it. They are also created using HTMl <input> tag

Email Field:

Output:

The email field in new in HTML 5. It validates the text for correct email address. You must use @ and . in this field.



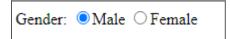
Radio Button:

The radio button is used to select one option from multiple options. It is used for selection of gender, quiz questions etc.

If you use one name for all the radio buttons, only one radio button can be selected at a time. Using radio buttons for multiple options, you can only choose a single option at a time.

Example:

Output:

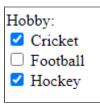


Checkbox:

The checkbox control is used to check multiple options from given checkboxes.

Example:

```
<!DOCTYPE html>
<html>
<head>
  <title>Form in HTML</title>
</head>
<body>
 <form>
Hobby:<br>
        <input type="checkbox" id="cricket" name="cricket" value="cricket"/>
         <label for="cricket">Cricket</label> <br>
        <input type="checkbox" id="football" name="football" value="football"/>
         <label for="football">Football</label> <br>
        <input type="checkbox" id="hockey" name="hockey" value="hockey"/>
         <label for="hockey">Hockey</label>
</form>
</body>
</html>
```



Submit button:

HTML **<input type="submit">** are used to add a submit button on web page. When user clicks on submit button, then form get submit to the server.

Syntax:

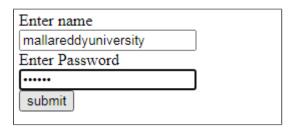
```
<input type="submit" value="submit">
```

The type = submit, specifying that it is a submit button

The value attribute can be anything which we write on button on web page.

Example: <!DOCTYPE html> <html> <head> <title>Form in HTML</title> </head> <body> <form> <label for="name">Enter name</label>
 <input type="text" id="name" name="name">
 <label for="pass">Enter Password</label>
 <input type="Password" id="pass" name="pass">
 <input type="submit" value="submit"> </form> </body> </html>

Output:



HTML < fieldset> element:

The <fieldset> element in HTML is used to group the related information of a form. This element is used with <legend> element which provide caption for the grouped elements. Example:

```
<!DOCTYPE html>
<html>
<head>
    <title>Form in HTML</title>
</head>
<body>
    <form>
        <fieldset>
```

```
<legend>User Information:</legend>
  <label for="name">Enter name</label><br>
  <input type="text" id="name" name="name"><br>
  <label for="pass">Enter Password</label><br>
  <input type="Password" id="pass" name="pass"><br>
  <input type="submit" value="submit">
  </fieldset>
  </form>
  </body>
  </html>
```



HTML Date:

The **date** is the value of the **type** attribute of an **<input>** element. It creates a calendar that allows a user to choose the date. The resulting value includes the **day, month**, and **year**.

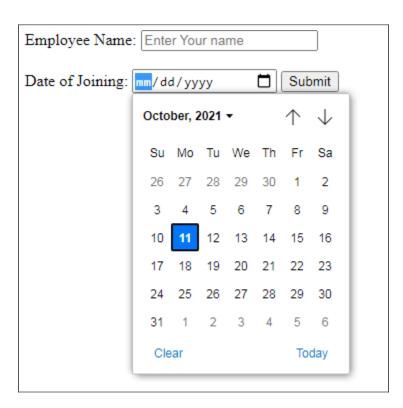
Syntax <input type="date">

Example : The following example describes how to use the date in **<input>** tag

```
<!DOCTYPE html>
<html>
<head>
<title>
Example of Date Attribute
</title>
<body>
<form>
Employee Name: <input type="text" placeholder="Enter Your name" Required>
<br>
<br>
<br>
Date of Joining: <input type = "date">
```

-

- Output:



HTML Time:

HTML <**time**> **tag** is used to define date and time. It displays time value in a 24 hour clock or a precise date in a Gregorian calendar in HTML.

It is used to encode dates and times in a machine-readable way to make easy to mark or schedule your task.

It also helps search engines to produce smarter search results.

HTML <time> is a new tag and introduced in HTML5.

Let's see the syntax to define date and time.

Syntax:

<time>define date and time here</time>

Attribute

There is only one specific attribute of HTML5 time tag.

Attribute	Description
Datetime	It is used to define machine-readable date/time within the time element.

HTML time tag example:

```
<!DOCTYPE html>
<html>
<head>
<title>
Example of Time tag
</title>
</head>
<body>
We open our shop at <time>09:00</time> am.
The business meeting is scheduled on
<time datetime="2021-10-20">next wednesday</time>.
</body>
```

Output:

</html>

We open our shop at 09:00 am.

The business meeting is scheduled on next wednesday.

$\label{eq:html} HTML\ program\ for\ registration\ form:$

```
<caption><h2>Registration form</h2></caption>
Enter your first name
    <input type="text" name="fn" id="fn1" maxlength="10"
    title="enter your first name" placeholder="enter your first name" required/>
Enter your last name
    Enter your password
    <input type="password"/>
ReEnter your password
    <input type="password"/>
Enter your email
    /td>
Enter your mobile
    Enter your address
    <textarea rows="8" cols="20"></textarea>
Select your gender
    male<input type="radio" name="g" value="m"/>
    female<input type="radio" name="g" value="f"/>
    Select your hobbies
```

```
hobby1<input type="checkbox" name="x[]" value="h"/>
     hobby2<input type="checkbox" name="x[]" value="h2"/>
     hobby3<input type="checkbox" name="x[]" value="h3"/>
     Select your DOB
     <input type="date"/>
Select your Country
     <select name="country">
     <option value="" selected="selected" disabled="disabled">Select your country
     <option value="1">India</option>
     <option value="2">Pakistan</option>
     </select>
     Upload your pic
     <input type="file"/>
<input type="submit" value="Save My Data"/>
     <input type="reset" value="Reset Data"/>
     </form>
</body>
</html>
Output:
```

Registration form		
Enter your first name	enter your first name	
Enter your last name		
Enter your password		
ReEnter your password		
Enter your email		
Enter your mobile		
Enter your address		
Select your gender	male O female O	
Select your hobbies	hobby1 □ hobby2 □ hobby3 □	
Select your DOB	mm/dd/yyyy 📋	
Select your Country	Select your country ✔	
Upload your pic	Choose File No file chosen	
Sav	e My Data Reset Data	