UNIT-1:
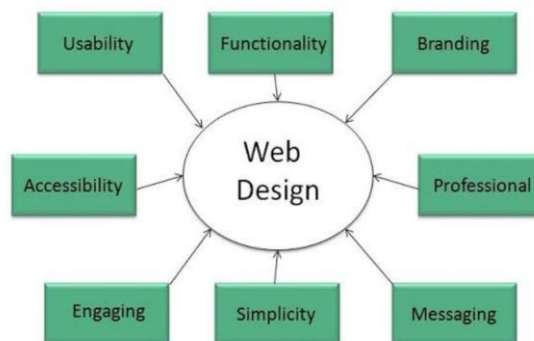
Introduction of Web Designing

Web design is the process of planning, conceptualizing, and arranging content online. Today, designing a website goes beyond aesthetics to include the website's overall functionality. Web design also includes web apps, mobile apps, and user interface design.

Basic principles involved in developing a website

In order to create a highly usable and effective website , designer follow certain principles which are given below.

Accessibility

-> When a visitor enters the website , he must be able to access each bit of information in an easiest manner.

-> This means that the text must be legible , the colors must not be harsh on the eyes and background must not be overpower the content .

Simplicity

-> Company should keep their website simple and clean along with a user friendly interface to help visitors search for information they needed easily.

Communication and content

-> Everyone who visit a website is looking for some kind of information or content. and thus it is very important to communicate with them clearly and in an engaging manner.

-> The information must be compelling , easy to read and easy to processes . website are not just about colors , layout or graphics but a major role is played by its contents.

Navigation

-> Web designer should have a clear idea about managing navigation in a website.

Good structure

-> A web page must have a good structure and should be simple to understand so that users would not have to think which to go. it must be self explanatory.

Typography

-> Text is the most common element of design , so a lot of attention to be given on it. following things can consider in this respect:

- font choice

- font size

- spacing

- line length

Visual hierarchy

-> In a website visual hierarchy can be referred to the sequence in which eye moves from one topic , content or block to another. there are mainly 2 ways to create a visual hierarchy as given below

- size hierarchy

- content hierarchy

Mobile Friendly

-> More people are using their phones or other devices to browse the web. It is important to consider building your website with a responsive layout where your website can adjust to different screens.

Regular testing

-> Websites consistently need upgrades and updates so as to maintain the visitors footsteps and customers interest. solving errors during processes is least expensive rather than later.

Website Development Planning Process

There are seven steps that should be followed from start to finish when developing a website.

Research And Goal Setting

-> As with any project, it is important to do proper research and set goals before beginning.

-> The planning and goal setting process could take about 1-2 weeks to complete.

-> It is a very important first step to creating a website that sells.

Planning the Site

-> Planning the website involves creating a wireframe and sitemap.

-> Planning the website This is an important step because it is kind of like the skeleton of your site.

-> This process can take about 2-6 weeks to complete.

-> The sitemap allows the developer to get an outline of what the site will look like, what pages there will be and how they will interact with each other.

Designing and Layout

-> This is the step where you get to be creative with pictures, videos and what kinds of things the customer will notice when they come to your site.

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-> This process can take about 4-12 weeks from start to finish.

-> Consider colors, logos, and anything that will encourage your audience to interact with the site.

Writing the Content

-> The written content of a website is so important to its success.

-> The written content on a website is going to help a visitor determine their next steps.

-> It could take from 5 to 15 weeks.

Coding the Website

-> This would be where the sitemap is followed to ensure everything is coded correctly.

-> The coding step could take from 6 to 15 weeks, depending on how much content and how intricate you would like your website to be.

Testing and Launching

-> Before the website is launched, it is crucial that it is tested out by real users.

-> All the links and content should be tested to see if it works.

-> Not only is it important to test out all the buttons and everything on the site, but it is also important to test out what users think of it.

-> It is also important to make sure everything is running smoothly immediately after launching. Testing and launching may take 2-4 weeks to complete.

Maintenance

-> it is important to stay up-to-date with what is happening on the internet.

-> Maintaining a website is hard work, but the more effort put into its maintenance, the better.

Domain Name

A domain name is the address of your website that people type in the browser's URL bar to visit your website.

In other words, if your website was a house, then your domain name would be its address.

A domain name can have words which makes it easy to remember website addresses.

A domain host provides a domain name, like www.yourdomain.com, that visitors can use to find you.

Every computer on the Internet has an address which is unique in nature. It is a string of numbers and is referred to as IP address. To communicate with each other, computers identify another computer via its IP address.
It is represented in either dotted decimal notation or in binary decimal notation. Example: The address 172.16.122.204 when represented like these in dotted-decimal notation and it can be converted into binary notation. After conversion, it becomes 10101100 00010000 01111010 11001100.

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But it is difficult for humans to remember this IP address. Thus to find the location on the Internet easily, DNS was invented. DNS stands for <u>Domain Name Server</u>. It implements a distributed database which translates IP address into a unique alphanumeric address which is referred to as **Domain Names**. Basically, a domain name is the sequence of letters and or numbers separated by one or more period ("."). It is just like a pointer to a unique IP address on the computer network. As an analogy one can consider **Domain name as address** and <u>DNS</u> **as address book** of the Internet.
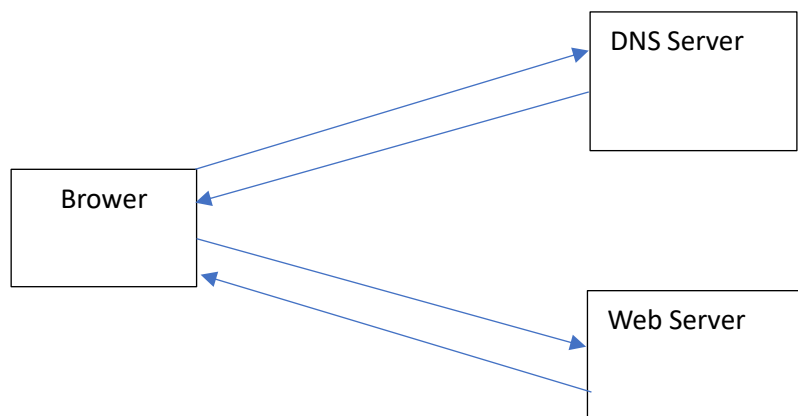
Example-1:
Lets us consider an example for domain name;
<u>www.google.com</u>, <u>www.yahoo.com</u>
In this "yahoo.com" is called domain name.
"www." tells the browser to look for World Wide Web Interface for that domain.
As from the above example, it is clear that domain names are easy to remember than an IP address.
Example-2:
Assume that the IP address of www.yahoo.com is 69.147.76.15. It is easy to remember www.yahoo.com as compared to IP address 69.147.76.15.
Thus, we can say like these; domain name refers to the string of letters associated with an IP address and DNS is a mechanism used to convert an IP address to the domain name.
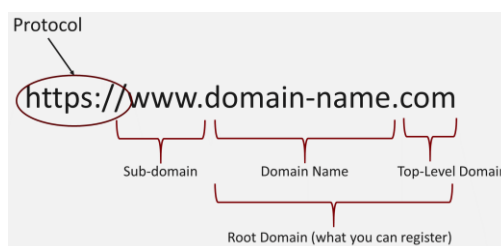
Types of Domain Names :
DNS has organized all the domain names in a hierarchical structure. At the top of this hierarchy come various Top-level domains followed by second and third-level domains and sub-domains. All these types of domain names are listed as follows –
Top Level Domains (TLD) :
The Top Level Domains are at the highest level in DNS structure of the Internet. It is sometimes also referred to as an extension. It is further categorized into- country code TLDs and generic TLDs which Country is described as follows –
Country code Top Level Domain (ccDLDs) :
It consists of two-letter domains that include one entry for every country. Example – .in for India, .au for Australia, .us for United Nations, .jp for Japan etc. To target the local audience it is used by companies and

organizations . Only the residents of the country are allowed to is their specified ccTLD but now some countries allowed the users outside their country to register their corresponding ccTLDs.

Generic Top Level Domains (gTLDs) :
These are open for registration to all the users regardless of their citizenship, residence or age. Some of the gTLD s are .com for commercial sites, .net for network companies, .biz for business, .org for organizations, .edu for education.

There are various other levels which are below TLDs –

Second Level :
It is just below the TLD in the DNS hierarchy. It is also named as the label. Example: in .co.in, .co is the second-level domain under the .in in ccTLD.

Third Level :
It is directly below the second level. Example: in yahoo.co.in, .yahoo is the third level domain under the second level domain .co which is under the .in ccTLD.

Sub-domain :
It is the part of a higher domain name in DNS hierarchy. Example: yahoo.com comprises a subdomain of the .com domain, and login.yahoo.com comprises a subdomain of the domain .yahoo.com.

Advantages of Domain Name :
User not need to remember the IP address.
More reliable and secure.

Disadvantages of Domain Name :
IP address changes due to several reasons, due to this IP address of the computer get changed but DNS may have cached previous IP which will lead to give us wrong information.

Web Hosting

A web host provides the space where you display your site's content, like text, images, and videos. A web host doesn't necessarily provide the address visitors use to reach your site, like www.yourdomain.com.

Web Hosting is a service that allows hosting/post-web-server applications(website or web page) on a computer system through which web-browser clients can have easy access to electronic content on the Internet.

Web Server or **Web Host** is a computer system that provide web hosting. When Internet user's want to view your website, all they need to do is type your website address or domain into their browser. The user's computer will then connect to your server and your web pages will be delivered to them through the browser. Basically, the web hosts allow the customers to place documents, such as HTML pages, graphics, and other multimedia files, etc. onto a special type of computer called a web server. It provides a constant and high-speed connection to the backbone of the Internet.

Different types of Web hosting services are listed below:
- Free Hosting
- Virtual or Shared Hosting
- Dedicated Hosting
- Co-location Hosting

Free Hosting:
This is a free non-paid web hosting service. This type of hosting is available with many prominent sites that offer to host some web pages for no cost, like Hostinger.

Advantages :
- Free of cost
- Use websites to place advertisements. banners and other forms of advertising media

Disadvantages:
- Customer support is missing
- Low bandwidth and lesser data transfer
- No control over your website

Shared/Virtual Hosting:

It's a web hosting service where many websites reside on one web server connected to the internet. This type of hosting is provided under one's own domain name, www.yourname.com. With a hosting plan with the web hosting company, one can present oneself as a fully independent identity to his/her web audience, like Lindo.

Features of shared hosting:
1. Not Fixed space
2. Slow down
3. Charges at fixed time period.(4month)
4. Only one website can place
5. High traffic slow down the website

Advantages:
- Easy and affordable
- Secured by hosting provider
- 24/7 Technical support

Disadvantages:
- Shared resources can slow down the whole server
- Less flexible than dedicated hosting

Virtual Private Hosting:

In a virtual private Hosting a company provide you fixed space to place your website. Company give a server to one or more customers and that's how a server is shared but fixed divide to everyone so this type of hosting is called virtual private hosting.

Features of Virtual Private hosting:
1. Fixed space
2. Slow down
3. Charges at fixed time period
4. Only one website can place
5. High traffic slow down the website

Dedicated Hosting:

Hosted on a dedicated server, this type of hosting is best suited for large websites with high traffic. In this, the company wishing to go online rents an entire web server from a hosting company. This is suitable for companies hosting larger websites, maintaining others' sites or managing a big online mall, etc like Google Cloud.

Advantages:
- Ideal for large business
- Strong database support
- Unlimited software support
- Powerful e-mail solutions
- Complete root access to your servers

Disadvantages:
- Its very expensive
- Requires superior skill sets

Co-located Hosting:

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This hosting lets you place your own web server on the premises of a service provider. It is similar to that of dedicated hosting except for the fact that the server is now provided by the user-company itself and its physical needs are met by the hosting company like AWS.

Advantages:

- Greater Bandwidth High Up-Time
- Unlimited Software Options
- High Security

Disadvantages:

- Difficult to configure and debug
- Its expensive
- Require high skills

Responsive Web Designing

Responsive web design (RWD) is a web design approach to make web pages that render well on all screen sizes and resolutions while ensuring good usability. It is the way to design for a multi-device web. Website is a collection of related web pages that may contain text, images, audio and video. The first page of a website is called home page.

In other word Responsive design is an approach to web page creation that makes use of flexible layouts, flexible images and cascading style sheet media queries. The goal of responsive design is to build web pages that detect the visitor's screen size and orientation and change the layout accordingly.

Responsive Web Design comprises two words i.e., responsive and web design. Responsive means to respond and web design means to design website. Therefore, responsive web design generally means website that respond to or resize or adjust itself depending upon screen size it is being seen through. It automatically adjusts to fit user's screen whether it's desktop, laptop, mobile, tablet, etc. It only uses one layout for web page and it can be done either using CSS and HTML or CSS3 and HTML5.

How to check whether the Website is Responsive?
One should know that not all Websites are responsive. Non-responsive websites display perfectly on desktop, laptop but not on mobile or tablets. Below are some steps given that one can follow to determine whether website is responsive or not.

Step 1: Go to Google Chrome and Open it.
Step 2: Go to website that you want to check for responsive design.
Step 3: Press Ctrl + Shift + I. This will open Chrome DevTools. These are web developer and debugging tools built into browser and help one to edit page and identify problem easily.
Step 4: Press Ctrl + Shift + M. This will toggle device toolbar i.e.; toolbar will appear at top of page and enable one to see appearance of website on mobile device.
Step 5: View website from mobile, tablet perspective.
Conclusion: If the website view fits according to screen size, everything looks clear and crisp, images and text are clear, etc., then one can say that website is responsive. All images, fonts, and HTML elements will be scaled properly, and fit whatever screen size is.

What is Website

Website is a collection of related web pages that may contain text, images, audio and video. The first page of a website is called home page.

A website is a collection of many web pages, and web pages are digital files that are written using HTML(HyperText Markup Language). To make your website available to every person in the world, it must be stored or hosted on a computer connected to the Internet round a clock. Such computers are known as a **Web Server**.

Components of a Website: We know that a website is a collection of a webpages hosted on a web-server. These are the components for making a website.

- **Webhost:** Hosting is the location where the website is physically located. Group of webpages (linked webpages) licensed to be called a website only when the webpage is hosted on the webserver. The webserver is a set of files transmitted to user computers when they specify the website's address..
- **Address:** Address of a website also known as the URL of a website. When a user wants to open a website then they need to put the address or URL of the website into the web browser, and the asked website is delivered by the webserver.
- **Homepage :** Home page is a very common and important part of a webpage. It is the first webpage that appears when a visitor visits the website. The home page of a website is very important as it sets the look and feel of the website and directs viewers to the rest of the pages on the website.
- **Design :** It is the final and overall look and feel of the website that has a result of proper use and integration elements like navigation menus, graphics, layout, navigation menus etc.
- **Content :** Every web pages contained on the website together make up the content of the website. Good content on the webpages makes the website more effective and attractive.
- **The Navigation Structure:** The navigation structure of a website is the order of the pages, the collection of what links to what. Usually, it is held together by at least one navigation menu.

A website can be divided into two types:

- Static Website   - Dynamic Website

Static Website Vs Dynamic Website

Static Website	Dynamic Website
A static website contain information that does not change, It remains the same, or static for every viewer of the site.	A dynamic website contains information that changes, developing on the viewer, the time of the day, the time zone, the viewer's native language, and other factor.
It requires HTML, CSS, Java script.	It require HTML,CSS and java script as well as PHP or ASP.Net or JSP and database MySQL, SQL, Oracle.
Easy to develop, but bit experience people can develop it.	Websites not easy to develop because require qualify developers to develop it
It never use database connectivity.	It deals with database and generate the contents dynamically using database queries.
Websites are highly secure than dynamic site because it behaves as a half duplex approach so only one way communication is possible i.e. server to client.	Website are less secure because the behaves as full duplex approach so both side communication is possible so user can change the server data.

What is W3C

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The World Wide Web Consortium (W3C) is an international community where Member organizations, full-time staff and the general public work together to develop Web standards.

W3C stands for **World Wide Web Consortium**.
It is basically the main international establishment for the **WWW(World Wide Web)**. The main motive behind the World Wide Web Consortium is to lead the web to its full potential and to ensure regular development of the web. It serves the purpose of developing various protocols in order to ensure the growth of the web. It consists of organizations that provide full time working for staff in order to ensure the development of the web. Currently, the W3C is being led by Tim Berners-Lee and has a staff of 443 members. The main headquarters of W3C is located in Cambridge, Massachusetts, United States.

History
World Wide Web Consortium was founded by Tim Berners-Lee in October 1994 at the Massachusetts Institute of Technology, with the support of DARPA(Defense Advanced Research Projects Agency) and CERN. The main vision of W3C was to standardize the technologies as well as the protocols that are used to build the web. It also tried to encourage the organizations to adopt the new standards defined by the World Wide Web Consortium. In the next few years, the W3C thus published various recommendations such as the format of PNG images, CSS(versions 1 and 2), etc. European branch of W3C was first considered to be hosted by CERN but later it did not happen as CERN focused on physics rather than Information Technology. So the French Institute for Research in Computer Science and Automation hosted the European branch of W3C in April 1995. Further various other hosts were decided such as Beihang University being the Chinese host, Keio University being the Asian host, etc.

Characteristics of W3C
- It is responsible for creating and publishing web standards.
- It also ensures the growth and development of web.
- It also develops the standards for web scripting, web applications and other dynamic contents.
- It is an organization which helps in the promotion of interoperability by the promotion and designing of open protocols.
- W3C uses the principles of modularity, simplicity and extensibility while designing web protocols.

Advantages
- W3C enables the easier maintenance of the W3C validated websites.
- It provides a consistent and defined look for all the W3C validated websites.
- It standardizes the validated websites so that they are accessible to different devices.
- It enables faster browser interaction.

Disadvantages
- W3C validation is a timely process and thus the time for full validation depends on the website code.
- W3C validation exercises have costs associated with them.
- Sometimes translation issues arise in W3C validation of websites.

Web Standards and W3C recommendations

W3C, an independent and neutral organization, develops Web-related standards also known as Recommendations, which serve as a reference to build an accessible, interoperable and efficient Web, in which more robust applications can be developed.

Open Standards
Tim Berners-Lee and representatives of the W3C organization had given the most precious feature of Web Standards which says that the web will always be free for use and also for the contribution by developers means it will not limit itself by patent rights or licensing. Because of this feature, everyone is independent

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to write code for building websites without paying anything to anyone. Because of its openness, there is no chance of censorship means a single organization cannot control it.

World Wide Web Consortium (W3C)
The credit for maintaining and creating new web standards goes to World Wide Web Consortium (W3C) which is considered the main organization. A number of standards have been defined by W3C which includes different languages that are used in making websites like HTML, CSS, JavaScript, etc.

Any website will be considered to follow the given web if that website or web page has correct HTML and CSS. These languages also need to comply with semantic and accessibility procedures.

Features of World Wide Web Consortium (W3C)
1. **Web for All:** It is the main goal of (W3C) to make web service accessible to all people, no matter what their software or hardware configuration is, and also no matter where they live. This feature helps people worldwide to connect and communicate with each other.
2. **Web on Everything:** This feature ensures that each and every device can easily access the web because people are using a large variety of devices and interfaces like mobiles, tablets, smart assistants, etc.
3. **Web Of Easy Interaction:** Websites should be easy to load and must be interactive so that users don't feel bored. It should be built by keeping in mind the interest of users.
4. **Web of Trust:** The web should be secure and must win the trust of its users so guidelines are made to use various security measures like SSL certificates for websites, HTTPS protocol which is more secure than HTTP, and many other measures which reduce the risk of attacks on these websites.

Web Standards

They are Web languages, protocols and inter-operative and international technologies created with the purpose of guiding the Web towards its maximum potential through the development of standardized protocols and guidelines.

Web standards are defined as technologies that are used in building websites. Web Standards consist of technical documents known as specifications, which provide detailed information on how web technology should work. These documents are really helpful for engineers in making web applications in a more efficient manner for the users.

Components of Web Standards
1. W3C recommendations for HTML, CSS, and also for different image formats to be used in websites.
2. Living Standards provided by Web Hypertext Application Technology Working Group (WHATWG), these standards consist of Document Object Model Standard, URL Standard, Encoding Standards, etc.
3. JSON standards are given by ECMA International.
4. Recommendations of the International Organization for Standardization (ISO).

UNIT-1

What is HTML

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HTML is a markup language used by the browser to manipulate text, images, and other content, in order to display it in the required format. HTML was created by Tim Berners-Lee in 1991. The first-ever version of HTML was HTML 1.0, but the first standard version was HTML 2.0, published in 1995.

HTML Released Year:

- o HTML 1-1993
- o HTML 2-1995
- o HTML 3-1997
- o HTML 4-1999
- o HTML 4.01-2012
- o HTML 5-2014

Introduction of HTML

- HTML stands for **Hyper Text Markup Language·**
- HTML is the standard markup language for creating Web page.
- HTML describes the structure of a Web page.
- HTML consists of a series of element.
- HTML elements tell the browser how to display the content.
- HTML elements label pieces of content such as "this is a heading", "this is a paragraph", "this is a link", etc.

Features of HTML:

- It is easy to learn and easy to use.
- It is platform-independent.
- Images, videos, and audio can be added to a web page.
- Hypertext can be added to the text.
- It is a markup language.

Why learn HTML?

- It is a simple markup language. Its implementation is easy.
- It is used to create a website.
- Helps in developing fundamentals about web programming.
- Boost professional career.

Characteristics of HTML:

- **Easy to understand:** It is the most straightforward language you can say, very easy to grasp this language and easy to develop.
- **Flexibility:** This language is so much flexible that you can create whatever you want, a flexible way to design web pages along with the text.
- **Linkable:** You can make linkable text like users can connect from one page to another page or website through these characteristics.
- **Limitless features:** You can add videos, GIFs, pictures, or sound anything you want that will make the website more attractive and understandable.
- **Support:** You can use this language to display the documents on any platform like Windows, Linux, or Mac.
- **Not a Programming Language:** HTML is not a programming language as it is only concerned with presenting the information on the web. It is not used to program any logic but to give structure and semantically meaning to our website. Though we can link **JavaScript** code to it which is a programming language.

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- **Language Support:** HTML can support various other languages like **JavaScript**, **Ruby**, **PHP**(**Personal Home Page**), **Perl**, and many more. You can also able to run embed python during the runtime.

Advantages:
- HTML is used to build websites.
- It is supported by all browsers.
- It can be integrated with other languages like CSS, JavaScript, etc.

Disadvantages:
- HTML can only create static web pages. For dynamic web pages, other languages have to be used.
- A large amount of code has to be written to create a simple web page.
- The security feature is not good.

HTML document

It's a text document saved with the extension .html or .htm that contains texts and some tags written between "< >" which give the instructions needed to configure the web page.
These tags are fixed and definite and will be currently explained in the tutorials when applied and needed.

Every HTML document includes two parts:
- one part that is visible to/in the browser and can't be changed directly and that shows the entire content of the page.
- another part that contains the source code of the page with which we can modify the HTML document. This part is the one we'll work with.

To see the source code of any HMTL document you just have to click the right mouse button inside the page (text area) and click on "View source" or "View Frame-Source". The Text Editor will open a document containing the source code of the page.

To explain the basic structure of an HTML document there are three tags that describe it and that give simple information about it. These tags don't affect the appearance of the document, they just frame and structure the HTML file.

<html> and </html>: Border the document and indicate the language in which it is written.
<head>: Specifies the preface of the rest of the file. There are few tags inside it, emphasizing the one of the title <title> that identifies the content of the page. There can only be one title in each document, preferably short and significant. In the head there shouldn't be any text of the document.
<body>: Is the main content or cause of the document. This is the part of the HTML document that the computer shows.

Basic structure of an HTML document

Example

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```
<!DOCTYPE html>
<html>
<head>
<title>Page Title</title>
</head>
<body>
<h1>My First Heading</h1>
<p>My first paragraph.</p>
</body>
</html>
```

Output:

My First Heading

My first paragraph.

Description of HTML document

 ✓ The <!DOCTYPE html> declaration defines that this document is an HTML5 document
The <!DOCTYPE> declaration is not case sensitive.
It defines the document type or it instruct the browser about the version of HTML.
 ✓ The **<html>** element is the root element of an HTML page. It begins with **<html>** and ends
with **</html>** tag.
 ✓ The **<head>** element contains meta information about the HTML page. For Example, the Title of the
page, version of HTML, Meta Data, etc.
 ✓ The **<title>** element specifies a title for the HTML page (which is shown in the browser's title bar or
in the page's tab). This is header information and hence is mentioned within the header tags. The
tag begins with **<title>** and ends with **</title>.**
 ✓ The **<body>** element defines the document's body, and is a container for all the visible contents, such
as headings, paragraphs, images, hyperlinks, tables, lists, etc. The body tag contains the actual body
of the page which will be visible to all the users. This opens with **<body>** and ends with **</body>**.
 ✓ The **<h1>** element defines a large heading.
 ✓ The **<p>** element defines a paragraph.

Creating a complete document with head and body tag.

Follow the steps to create HTML document.

 • Open a text editor Notepad++.
 • Write your HTML code into Notepad++.
 • Save the file with .html extension.
 • Run the file.

Markup Tags

A "markup tag" is the fundamental characteristic of HTML. Every markup tag is a command placed
between "wickets" or "angle brackets"—a left bracket (<) and a right bracket (>). Markup tags
are *not* revealed by a web browser; they are invisible.

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In most cases, markup tags (containing *commands*) come in pairs, with text or a graphic image located between the *beginning* and *ending* tags:

- **<COMMAND>text or graphic image</COMMAND>**: controls or regulates the text or graphic image information between the two non-empty markup tags.

Pairs of markup tags are referred to as "non-empty" tags, because something is contained between the beginning tag and the ending tag. A beginning tag and an ending tag are identical, except a "slash" (/) is placed before the command of the ending tag to tell the browser that the command has been completed. Frequently, certain *parameters* are included within the beginning command tag, placed before the second bracket:

- **PARAMETER1="X" PARAMETER2="Y"**: provide supplementary instructions (such as colorization, measurement, location, alignment, or other appearances) to the data between the markup tags.

So a typical pair of non-empty HTML tags in a source code, with the first tag containing a *command* a long with a few *parameters*, would resemble this:

<COMMAND PARAMETER1="X" PARAMETER2="Y" PARAMETER3="Z">text</COMMAND>

Some HTML tags are referred to as "empty" tags, because they consist only of a single tag rather than a pair of tags. That is, an "empty" tag consists only of a <COMMAND> tag and lacks an ending </COMMAND> tag. Examples of non-empty and empty tags will be given in other sections.

I recommend using UPPERCASE letters for all HTML commands and associated parameters, because it is easier to distinguish them from regular text whenever one creates or proof reads an HTML source code document.

HTML Heading

An HTML heading tag is used to define the headings of a page. There are six levels of headings defined by HTML. These 6 heading elements are h1, h2, h3, h4, h5, and h6; with h1 being the highest level and h6 being the least.

- **<h1>** is used for the main heading. (Biggest in size)
- **<h2>** is used for subheadings, if there are further sections under the subheadings then the **<h3>** elements are used.
- **<h6>** for the small heading (smallest one).

HTML headings are defined with the <h1> to <h6> tags. <h1> defines the most important heading. <h6> defines the least important heading.

`<h1>Heading 1</h1>`	Heading 1
`<h2>Heading 2</h2>`	Heading 2
`<h3>Heading 3</h3>`	Heading 3
`<h4>Heading 4</h4>`	**Heading 4**
`<h5>Heading 5</h5>`	Heading 5

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`<h6>Heading 6</h6>`	Heading 6

Changing the size of HTML Headings: The default size of HTML headings can be changed, using the style attribute.

Example 1: This example illustrates the HTML heading tags.

```html
<!DOCTYPE html>
<html>
<body>

    <h1>H1 Heading</h1>

    <!-- With the help of Style attribute you can customize
         the size of the heading, As done below-->

    <h1 style="font-size: 50px">H1 with new size.</h1>

    <!-- Here font-size is the property by which  we can
         modify the heading. Here we kept it 50px i.e. 50 pixels -->


</body>
</html>
```

Output:

H1 Heading

H1 with new size.

Horizontal rule: The <hr> tag which stands for the horizontal rule is used to define a thematic break in an HTML page. The <hr> tag is an empty tag, and it does not require any end tag. It is basically used to separate content. Please refer to the HTML <hr> Tag article for more detailed information.
Example: This example explains the HTML Headings with horizontal rules.

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```html
<!DOCTYPE html>
<html>
<body bgcolor="red">

    <h1>Heading 1</h1>
    <b><p>I like HTML.</p></b>
    <!-- hr Tag is used here-->
    <hr />
    <h2>Heading 2</h2>
    <p>I like CSS.</p>
    <!-- hr Tag is used here-->
    <hr />
    <h2>Heading 3</h2>
    <p>I like Javascript.</p>
</body>
</html>
```

Output:

Heading 1

I like HTML.

Heading 2

I like CSS.

Heading 3

I like Javascript.

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HTML Paragraph

The HTML <p> element defines a paragraph. A paragraph always starts on a new line, and browsers automatically add some white space (a margin) before and after a paragraph.

These have both opening and closing tags. So anything mentioned within **<p>** and **</p>** is treated as a paragraph. Most browsers read a line as a paragraph even if we don't use the closing tag i.e, </p>, but this may raise unexpected results. So, it is a good convention, and we **must** use the closing tag.
- ✓ <p>This is first paragraph.</p>
- ✓ <p>This is second paragraph.</p>
- ✓ <p>This is third paragraph.</p>

Example:

```
<!DOCTYPE html>
<html>
<body>
    <p>A Computer Science.</p>
    <p>It contains well written, well thought articles.</p>
</body>
</html>
```

A Computer Science.

It contains well written, well thought articles.

HTML Line Break

The HTML <br> element defines a line break. Use <br> if you want a line break (a new line) without starting a new paragraph:

<p>This is
a paragraph
with line breaks.</p>

The <br> tag is an empty tag, which means that it has no end tag.

Example:

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```
<!DOCTYPE html>
<html>
<body>
    <p>
        This paragraph has multiple
        <br />lines. But HTML reduces them
        <br />to a single line, omitting
        <br />the carriage return we have used.
    </p>
</body>
</html>
```

Output:

This paragraph has multiple
lines. But HTML reduces them
to a single line, omitting
the carriage return we have used.

Align attribute: The <p> tag specifically supports the alignment attribute and allows us to align our paragraphs in left, right, or center alignment.
Syntax:
<p align="value">

Example: This example explains the align attribute to align the content in the <p> tag.

```
<!DOCTYPE html>
<html>
<body>
    <p align="center">
        Welcome
    </p>
    <p align="left">
        Computer Science
    </p>
    <p align="right">
The right alignment
    </p>
</body>
</html>
```

Output:

Welcome

Computer Science

The right alignment

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Welcome

Computer Science

The right alignment

Question Bank-
Unit-1

Section-A

Q1. Discuss briefly about the Planning process in developing a Website.

Q2. Discuss in brief about the term Website

Q3. What do you understand by Registering domains?

Q4. What is a website? Differentiate between static and dynamic website.

Q5.

Section-B

Q1. Explain in detail about the following.

i) Domains and Hosting, Responsive Web Designing

ii) Static and Dynamic Websites using separate examples.

Q2. Discuss in detail about the Web Standards and W3C recommendations.

Q3. Why early planning is useful to develop an effective website? Give proper example in favor of your reason.

Q4. Explain the following.

i) Responsive Web Designing using an example.

ii) Mark up Tags and Line break using separate examples.

Q5. Explain basic principles that are involved in designing a web site.

Q6. What is Website? Explain different types of websites.

Assignment-1

1. Discuss briefly about the Planning process in developing a Website.
2. What is a website? Differentiate between static and dynamic website.
3. Discuss in detail about the Web Standards and W3C recommendations.
4. Explain basic principles that are involved in designing a web site.
5. Why early planning is useful to develop an effective website? Give proper example in favor of your reason.

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