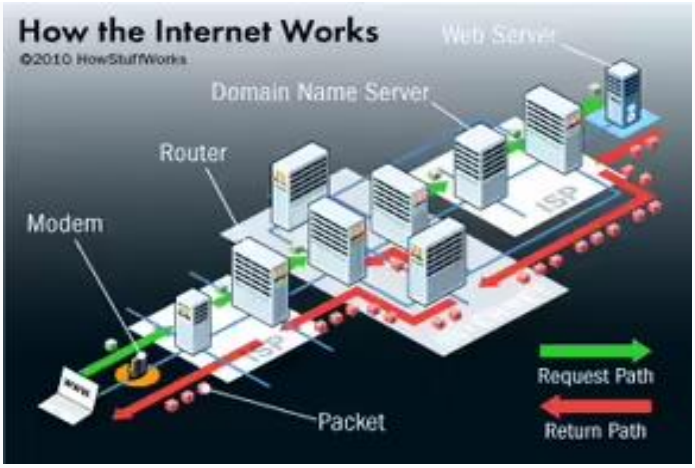
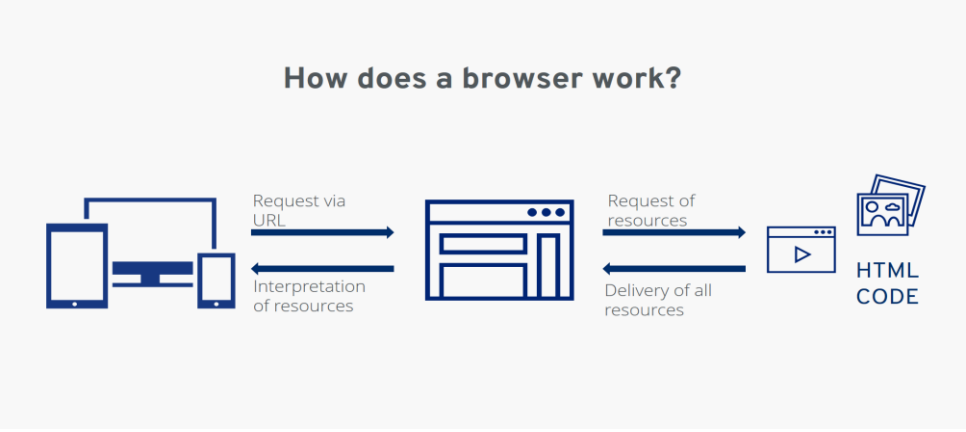
1.How internet works?

The Internet connects millions of computers to each other so that they can interact with each other and also transmit data to each other.
Internet uses a packet switching technique to transmit the data. Thus, the data to be sent is divided into packets and the data is sent in the form of packets only. Each packet of data contains various information like the address of the destination, error control information, etc.
Internet Protocol is responsible for gathering the addresses to which the data is to be transmitted.



2.How Browser works?

- The process begins with Domain Name System (DNS) resolution, where the browser translates the domain name into an IP address to locate the server where the web page is stored.
- The browser then sends an HTTP request to the server, specifying the path and parameters of the requested resource. Once the server receives the request, it sends an HTTP response to the browser containing the requested resource in HTML, CSS, and JavaScript code.
- The browser's rendering engine interprets and renders the code to display the web page on the user's device. As new content is loaded or changes are made to the web page, the browser updates the display accordingly.



3.What is server?

- A Server is a program or a device that provides functionality for called clients which are other programs or devices. This architecture is called the client-server model.
- A single overall computation is distributed across multiple processes or devices. Servers can provide various functionalities called services. These services include sharing data or resources among multiple clients or performing computations for a client. Multiple clients can be served by a single server, and a single client can use multiple servers.

4.What are the types of server available?

1. Application Server
These servers host web apps (computer programs that run inside a web browser) allowing users in the network to run and use them preventing the installation of a copy on their own computers. These servers need not be part of the World Wide Web. Their clients are computers with a web browser.
2. Catalog Server
These servers maintain an index or table of contents of information that can be found across a large distributed network. Distributed networks may include computers, users, files shared on file servers, and web apps.
3. Communication Server
These servers maintain an environment needed for one communication endpoint to find other endpoints and then communicate with them. These servers may or may not include a directory of communication endpoints. Their clients are communication endpoints.
4. Database Server
These servers maintain and share any form of database over a network. A database is an organized collection of data with predefined properties that may be displayed in a table. Clients of these servers are spreadsheets , accounting software.
5. Game Server
These servers enable several computers or gaming devices to play multiplayer games. Personal computers or gaming consoles are their clients.

5.What is SEO? Importance of SEO?

SEO means Search Engine Optimization and is the process used to optimize a website's technical configuration, content relevance and link popularity so its pages can become easily findable, more relevant and popular towards user search queries, and as a consequence, search engines rank them better.
SEO is important as it’s a highly effective way to improve your brand’s visibility through search, drive more traffic to your website, establish your brand as a trusted authority in your industry, sustainably and reliably grow your business, and much more. Here’s how each of these factors contributes to the importance of SEO for your brand.

6.What is Accessibility?

Accessibility is the concept of whether a product or service can be used by everyone—however they encounter it. Accessibility laws exist to aid people with disabilities, but designers should try to accommodate all potential users in many contexts of use anyway. To do so has firm benefits—notably better designs for all.

- A11Y is the abbreviation—a numeronym, to be exact—for accessibility, where "11" represents the number of letters between the letters A and Y. Often, people in the design field use the shorthand on social media blogs when they refer to accessibility-related topics and have a limited word or character count. We can pronounce A11Y as "A-one-one-Y," "A.

7.What is Markup Language?

Markup languages are computer languages that are used to structure, format, or define relationships between different parts of text documents with the help of symbols or tags inserted in the document. These languages are more readable than usual programming languages with strict syntax. There are several markup languages available but the most popular among them are as follows.

- HTML
- XML
- XHTML
- SGML

8.What is HTML?

- Hypertext Markup Language is a markup language used to create and link webpages. It defines the basic structure of a web page and contains meta-data about the page and a series of elements to be displayed on the web page.
- It uses predefined tags such as <table>, <form>, etc. to render different elements on the webpage. Each element requires a starting and ending tag with content inside it.
- It can be written in a plain text editor and can be associated with styling sheets such as CSS (Cascading Style Sheets) and scripting languages such as JavaScript.

9.What is browser engine?

A browser engine (also known as a layout engine or rendering engine) is a core software component of every major web browser that is responsible for transforming HTML documents and other resources of a web page into an interactive visual representation on a user's device. Common browser engines include Blink, Trident, Gecko, and WEB Kit.

It uses algorithms to search through billions of web pages and returns the most relevant results to the user's query. The most popular #search engines include #Google, #Bing, #Yahoo, and #DuckDuckGo.

10.What is the rendering engine? share the available rendering engine?

- It's responsible for displaying the requested web resources by parsing the contents. By default, it can parse html, xml, and images. It uses different plugins and/or extensions to display other type of data such as flash, PDF, etc.
- Firefox uses Gecko, Safari uses web Kit (open source), Internet Explorer uses Trident (not open source), Chrome and Opera uses Blink, which is a variant of Web Kit. Different rendering engines use different algorithms and also have their different approaches to parse a particular request.
- THE AVAIABLE ENGINES ARE:

1. Graphics Engines
2. Graphics Engines (aka GPUs)
3. Haptic Rendering Engines

11.What is Java script Engine? share the available engine? purpose of JS engine?

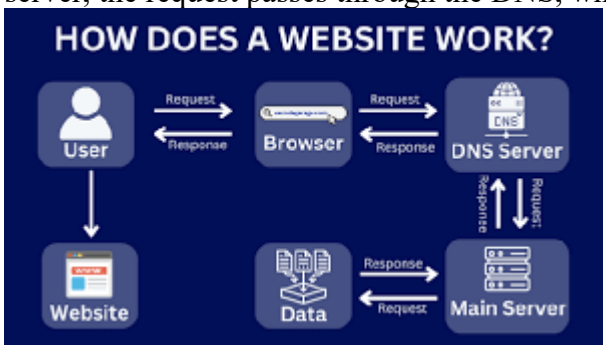
A JavaScript engine is a computer program that executes JavaScript code and converts it into computer understandable language.
A JavaScript engine is a software component that executes JavaScript code.

Browser	**Name of Java script Engine**
Google Chrome	V8
Edge (Internet Explorer)	Chakra

Mozilla Firefox	Spider Monkey
Safari	Java script Core Web kit

12.How website works?

Once a visitor types your domain name into their browser's address bar, their computer sends a request to connect to the webserver keeping your files. Before reaching the web server, the request passes through the DNS, which looks up the server's IP address.



13.What is Data Structure?

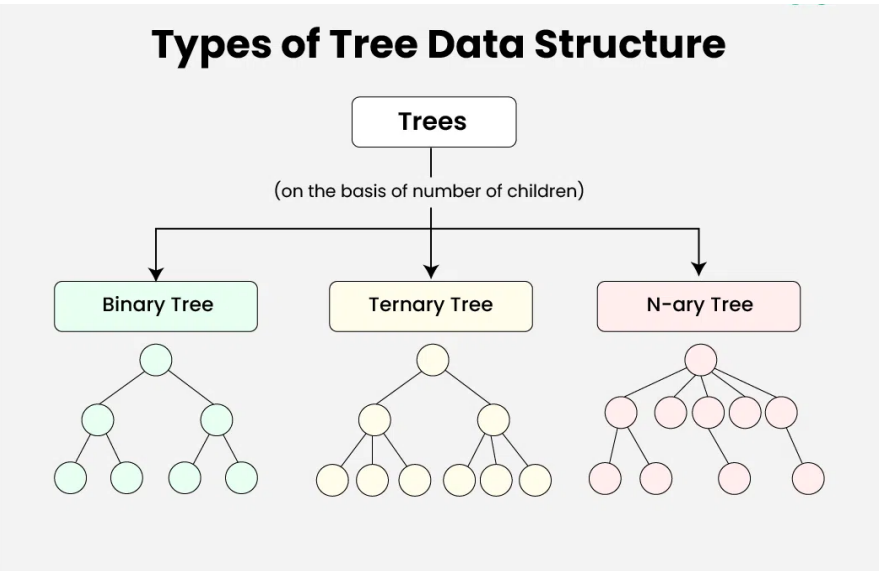
A data structure is a way of organizing and storing data in a computer so that it can be accessed and used efficiently. It refers to the logical or mathematical representation of data, as well as the implementation in a computer program.

Linear Data Structure: A data structure in which data elements are arranged sequentially. Example are array, stack, queue, etc.

Non-linear Data Structure: Data structures where data elements are not placed sequentially or linearly are called non-linear data structures. Examples are trees and graphs.

14.Explain Tree Data structure?

A tree data structure is defined as a collection of objects or entities known as nodes that are linked together to represent or simulate hierarchy. A tree data structure is a non-linear data structure because it does not store in a sequential manner.



15.What is user agent? Share the list and its purpose?

A user agent acts as an intermediary between a user and the internet, or more precisely, between the user application and the web servers.
On the Web, a user agent is a software agent responsible for retrieving and facilitating end-user interaction with Web content.

Types of User Agent (UA)

Web browsers

Mobile devices

Web crawlers

Other clients

16.What is Hyper Text?

Hypertext is a method of structuring and linking digital documents, allowing users to quickly and easily navigate between related pieces of information.
It acts as a backbone of WWW and allows users to jump from one piece of information to another related piece of information. The jump can be within the same document or to a completely different document that user wants to know about.

17.What is 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.
Syntax
<tag> content </tag>

18.What is HTML Attribute?

All HTML elements can have attributes
Attributes provide additional information about elements
Attributes are always specified in the start tag
Attributes usually come in name/value pairs like: name="value".

19.What is HTML Element?

An HTML Element is a collection of start and end tags with the content inserted between them.
The HTML element is everything from the start tag to the end tag:
My first paragraph .

20.How to convert elements to trees?

Converting elements into trees typically involves conceptualizing hierarchical relationships where elements are organized into parent-child structures.

Steps to Convert Elements to Trees:

1. Define the Tree Structure:
2. Identify the Root Node:
3. Map Elements to Nodes:
4. Establish Parent-Child Relationships:
5. Choose a Representation:
6. Implement the Conversion:

21.What is Doctype?

The DOCTYPE declaration is an instruction to the web browser about what version of HTML the page is written in. It is the first line of code required in every HTML or XHTML document.

22.What are the ways we can save html file?

Step 1. Open Notepad

- On the start menu, search for Notepad in Windows.
- Click on the **open** option on the right side to open the Notepad editor.

Step 2. Write HTML Code

- After opening the Notepad, you can write any HTML code.

Step 3. Save the HTML page

- Once you click on Save you will get an option to write the name of the file with an extension.
- Write the name of the file followed by the .html extension and save the file encoding as UTF-8.

23.What is Charset? why we need to use this?

The charset attribute specifies the character encoding for the HTML document.
The HTML5 specification encourages web developers to use the UTF-8 character set, which covers almost all of the characters and symbols in the world.
UTF-8 syntax for HTML5:

<meta charset="UTF-8">

24.What is metadata? What is the purpose of it?

The <meta> tag defines metadata about an HTML document. Metadata is data (information) about data. Metadata will not be displayed on the page, but is machine parsable.
Metadata is used by browsers (how to display content or reload page), search engines (keywords), and other web services.

1. Speeding up root cause analysis
2. Managing security classifications
3. Optimizing data stack spending.

25.Explain web application Architecture?

- Web application architecture is a mechanism that gives us a clarification that how the connection is established between the client and the server. It determines how the components in an application communicate with each other.
- It doesn't matter what is the size and the complexity level of the application is, they all follow the same principle only the details may differ.
- In technical terms, when a user makes a request on a website, various components of the applications, user interfaces, middleware systems, databases, servers, and the browser interact with each other. Web Application Architecture is a framework that ties up this relation together and maintains the interaction between these components.