# FULL TACK QUESTIONS

1. What is html explain markup in html

Html means HYPERTEXT MARKUP LANGUAGE and the markup mean to marking up an document with tags that tell the web browser how to structure it to display

1. Give example of markup language

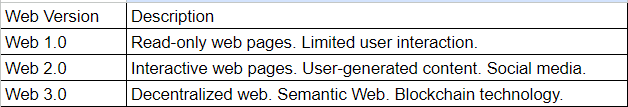
XML, HTML, Markdown

1. Explain DOM why it’s important to know about DOM for developing webapp

Dom (document object model) it provides the structural representation of the html document/web page allowing developers to dynamically manipulate its content, style, and behaviour.

* Tree like structure: the dom represents the structure of the html/xml document, and its each node represent the elements in the document
* Access and manipulation: js can access and manipulate the elements of the dom tree dynamically.it helps the developer to easily modify and manipulate the document
* Event handling: DOM enable event driven programming where JavaScript code can listen and respond to various events triggered by the user actions

1. Diff btw Web 1.0 2.0 3.0



1. What do you mean by full stack explain the technology involved in building full stack web applications
2. Explain diff version of html, CSS, java script on the basis of advantages and disadvantages

**HTML (HyperText Markup Language):**

* **Advantages:**
  + **Foundation of the Web:** The core structure of web pages, defining content and its organization.
  + **Easy to Learn:** Beginner-friendly syntax, making it a good starting point for web development.
  + **Wide Browser Compatibility:** Works consistently across different web browsers.
  + **Semantic Meaning:** Newer versions focus on semantic elements, providing meaning beyond just presentation.
* **Disadvantages:**
  + **Limited Styling:** Lacks built-in styling capabilities for visual design.
  + **Staticity:** Basic HTML is static, not ideal for dynamic and interactive web applications.
  + **Complex Structures:** Large projects can lead to lengthy and complex code.

**CSS (Cascading Style Sheets):**

* **Advantages:**
  + **Visual Appeal:** Styles HTML elements, controlling layout, fonts, colors, and overall aesthetics.
  + **Separation of Concerns:** Keeps presentation logic separate from content structure (HTML), improving maintainability.
  + **Responsive Design:** Enables websites to adapt to different screen sizes for optimal viewing on desktops, mobiles, etc.
  + **Reusable Styles:** Define styles once and apply them to multiple elements for consistency.
* **Disadvantages:**
  + **Browser Inconsistencies:** Minor rendering differences might occur across browsers.
  + **CSS Specificity Wars:** Complex selector rules can lead to maintenance challenges.
  + **Learning Curve:** Mastering advanced CSS layouts and animations requires practice.

**JavaScript:**

* **Advantages:**
  + **Interactivity:** Adds dynamic behaviour to web pages, allowing user interaction and animations.
  + **AJAX (Asynchronous JavaScript and XML):** Enables communication with servers without full page reloads, improving user experience.
  + **Front-End Frameworks:** Libraries like React or Angular streamline development and create complex user interfaces.
  + **Versatility:** JavaScript goes beyond the browser, finding applications in server-side development (Node.js) and game development.
* **Disadvantages:**
  + **Security Concerns:** JavaScript vulnerabilities can be exploited for malicious attacks (cross-site scripting).
  + **Performance Impact:** Complex JavaScript code can slow down page load times.
  + **Debugging Challenges:** JavaScript errors can be tricky to identify and fix, especially in large projects.

1. Is java script and ecmma script same

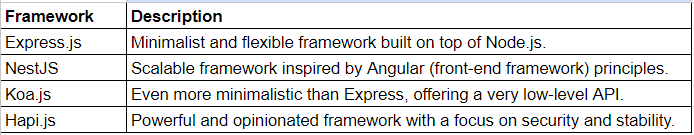
 ECMAScript **(ECM):**

* A **specification** that defines the core set of features and functionalities for a scripting language.
* Developed and standardized by Ecma International (ECMA).
* Acts as a blueprint for creating JavaScript-like languages.

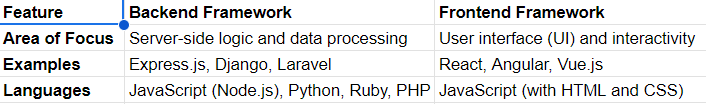
 JavaScript **(JS):**

* The most popular **implementation** of the ECMAScript specification.
* Created by Brendan Eich at Netscape and later standardized as ECMAScript.
* Includes some additional features beyond the core ECMAScript standard.

1. Diff framework of java script available for development of backend



1. What is diff between frameworks available for development of backend and front end



1. CSS frameworks available for design the front ends

Bootstrap, tailwind, foundation, bulma

1. Explain async and await of java script with example

**Async function:** async is a built-in function which is use to handle asynchronized code

Async function doesn’t pause the execution of code unlike another function rather that it returns the promises (promises are the way to handle the asynchronous operations)

**Await function**: await function is can only used inside async function as it pauses the execution of async operation until the promises are settled (either resolves or rejects). after completion of that it returns to the execution

1. Why java script is known as asynchronies programming language

**Asynchronous Handling:** JavaScript can initiate long-running tasks (like fetching data from a server) without blocking the execution of other code. This improves responsiveness for the user because the web page doesn't freeze while waiting for the task to complete.

**Event Loop and Callbacks:** JavaScript uses an event loop and callbacks to manage asynchronous operations. The event loop continuously monitors for events (like a task finishing) and triggers the corresponding callback function when an event occurs. This allows the code to continue running while the asynchronous task is in progress.

1. Call back function explain with example

A call back function is a function that is passed as an argument to another function. The receiving function then calls (or invokes) the call back function at some point during its execution.

1. Media query in CSS explain with example to implement media query

- desktop/laptop

- ⁠smartphone

- ⁠tablet

media queries in CSS allow you to define different styles for your web page depending on the characteristics of the device it's being displayed on. This is essential for creating responsive web designs that adapt to different screen sizes and provide an optimal user experience across various devices like desktops, laptops, smartphones, and tablets.

**desktop/laptop**

**@media (min-width: 768px) {**

**.container {**

**width: 70%;**

**margin: 0 auto;**

**}**

**h1 {**

**font-size: 2em;**

**}**

**}**

**Tablet**

**@media (min-width: 480px) and (max-width: 768px) {**

**.container {**

**width: 80%;**

**}**

**h1 {**

**font-size: 1.5em;**

**}**

**}**

**smartphone**

**@media (max-width: 480px) {**

**.container {**

**width: 90%;**

**}**

**h1 {**

**font-size: 1.2em;**

**}**

**}**

1. What is bootstrap and how do we use it

Bootstrap is a free and open-source front-end framework widely used for developing responsive websites. It provides a collection of pre-built components and utilities based on HTML, CSS, and JavaScript that simplify the web development process. Bootstrap is framework used for css

There are two main ways to integrate Bootstrap into your web project:

1. **CDN (Content Delivery Network):** Bootstrap provides a CDN link that allows you to include the Bootstrap library directly in your HTML file. This is a quick and easy way to get started, but it relies on an external source for the library.
2. **Download and Include Locally:** You can download the Bootstrap source files and include them locally in your project. This gives you more control over the library and allows you to customize it to your needs.
3. What is tr and td tags in html

Tr and td tags are used in html for creating table rows and coloums

1. Write a program in java script to demonstrate the use of alert and prompt

alert("voter check!")  
const *age*=parseInt(prompt("enter your age:"))  
if (*age*>18){  
 alert("you are eligible")  
}  
else{  
 alert("not eligible")  
}

1. Write a program in java script to validate the following
   * of an input from to confirm the password contain upper case and lower-case characters and numbers

function checkPassword(password) {  
let hasUppercase = false;  
let hasLowercase = false;  
let hasNumber = false;  
  
for (let char of password) {  
if (char >= 'A' && char <= 'Z') {  
hasUppercase = true;  
} else if (char >= 'a' && char <= 'z') {  
hasLowercase = true;  
} else if (char >= '0' && char <= '9') {  
hasNumber = true;  
}  
}  
  
return hasUppercase && hasLowercase && hasNumber && password.length >= 8;  
}  
  
function getPassword() {  
let password = prompt("Enter your password:");  
  
if (checkPassword(password)) {  
alert("Password is valid!");  
} else {  
alert("Password must contain uppercase, lowercase characters, and numbers. Minimum length is 8 characters.");  
}  
}  
  
getPassword();

1. Can compilation be done by using html. if yes then explain with example

No, HTML itself cannot perform compilation. HTML is a markup language used to structure and format the content of a web page. It defines elements like headings, paragraphs, images, and links, but it doesn't have the capability to compile code.

1. Write a js program to demonstrate the game of stone paper scissors (maximum line: -20) of code
2. Design an html form using bootstrap and also implement bootstrap cards
3. Write the mongo dB query to update an attribute of a document
4. Write a mongo dB query to insert a document in a database inside a collection BCA
5. Write a query in mongo dB to find a document in a database inside a collection “BCA” the attribute via which document need to be find are
   * name: Alex
   * ⁠age: 22
6. Write a program to find a greatest between 2 numbers and display the greatest number to be displayed in console of the browser

function findGreatest(num1, num2) {  
 const greatest = (num1 > num2) ? num1 : num2;  
 *console*.log("The greatest number is:", greatest);  
}  
const *number1* = 10;  
const *number2* = 5;  
findGreatest(*number1*, *number2*);

1. Diff between input type number and Input type text