Full-Stack Web Development

Full-Stack viva/interview questions.

For a beginner's viva or interview on HTML, CSS, and JavaScript, the questions will focus on fundamental concepts and how these technologies work together. The goal isn't to trick you, but to see if you understand the basic building blocks of the web.

HTML Questions 🖥️

1. **What is HTML and what is it used for?**

   o **Answer:** HTML stands for **HyperText Markup Language**. It is the standard markup language used to create the **structure** and **content** of a webpage. Think of it as the skeleton of a website.

2. **What is the difference between an HTML tag and an HTML element?**

   o **Answer:** An **HTML tag** is the keyword enclosed in angle brackets, like <h1>. An **HTML element** is the opening tag, the content, and the closing tag, all combined. For example, <p>Hello world!</p> is a complete element.

3. **What are attributes in HTML?**

   o **Answer:** Attributes provide **additional information** about an HTML element. They are always found in the opening tag and are written as name="value". Examples include href for a link or src for an image.

4. **How do you link an external CSS file to an HTML document?**

   o **Answer:** You use the <link> tag inside the <head> section of your HTML file, like this: <link rel="stylesheet" href="style.css">.

CSS Questions 🎨

1. **What is CSS and what is its purpose?**

   o **Answer:** CSS stands for **Cascading Style Sheets**. It's a language used to control the **presentation** and **styling** of an HTML document. It makes a website look good by controlling colors, fonts, layout, and more. It's the "skin" of the website.

2. **Explain the CSS Box Model.**

- o **Answer:** The CSS Box Model is a conceptual box that wraps every HTML element. It consists of four parts: **content**, **padding**, **border**, and **margin**.

- o **Content:** The actual text or images.

- o **Padding:** The space between the content and the border.

- o **Border:** A line or frame around the padding.

- o **Margin:** The space outside the border, separating it from other elements.

3. **What's the difference between an id and a class selector?**

- o **Answer:** An **id** is a unique identifier for a single element on a page (e.g., #main-header). You can only use it once. A **class** is a reusable name that can be applied to multiple elements (e.g., .card). You can use it as many times as you want.

4. **How do you center a <div> element horizontally using CSS?**

- o **Answer:** You can use margin: 0 auto; on the <div>, but this only works if the <div> has a defined width.

JavaScript Questions 🧠

1. **What is JavaScript and what is its role on a website?**

- o **Answer:** JavaScript is a **programming language** that makes web pages **interactive** and **dynamic**. It handles the behavior and functionality, such as responding to button clicks, validating forms, or fetching data. It's the "brain" of the website.

2. **What is the DOM?**

- o **Answer:** The **Document Object Model (DOM)** is a programming interface for HTML. It represents the HTML page as a tree-like structure of objects. JavaScript can use the DOM to access, modify, and update the content and style of a page.

3. **What is the difference between == and ===?**

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- o **Answer:** == is the **equality operator**. It checks if two values are equal, but it performs **type coercion**, meaning it tries to convert the values to a common type before comparing them.

- o === is the **strict equality operator**. It checks if both the **value** and the **type** are the same, without any type conversion. This is generally the preferred operator to avoid unexpected results.

4. **How do you add an event listener to an element?**

- o **Answer:** You use the addEventListener() method. For example:

JavaScript

```
const myButton = document.getElementById('myButton');
myButton.addEventListener('click', function() {
   console.log('Button was clicked!');
});
```

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