

INTERVIEW QUESTION-ANSWERS OF FRONT END DEVELOPMENT

1. What is front-end development?

Front-end development involves building the user-facing parts of a website or application, focusing on design, layout, interactivity, and responsiveness. It uses technologies like HTML, CSS, and JavaScript to create visually appealing and functional user interfaces.

2. What is the difference between HTML, CSS, and JavaScript?

- **HTML:** Defines the structure and content of a web page.
- **CSS:** Styles the HTML elements, including layout, colors, and fonts.
- **JavaScript:** Adds interactivity and dynamic behavior to the web page.

3. What are semantic HTML elements?

Semantic HTML elements clearly describe their meaning in a human- and machine-readable way. Examples include:

- `<header>`: Represents the header section.
- `<article>`: Represents self-contained content.
- `<footer>`: Represents the footer section.

4. What is the difference between `relative`, `absolute`, and `fixed` positioning in CSS?

- **Relative:** Positioned relative to its normal position.
- **Absolute:** Positioned relative to its nearest positioned ancestor.
- **Fixed:** Positioned relative to the viewport and does not move on scrolling.

5. What are CSS media queries?

Media queries allow developers to apply CSS styles based on device characteristics such as screen size, resolution, or orientation.

Example:

```
@media (max-width: 600px) {  
  body {  
    background-color: lightblue;  
  }  
}
```

6. What is the difference between inline, internal, and external CSS?

- **Inline CSS:** Applied directly to HTML elements using the `style` attribute.
Example: `<p style="color: red;">Hello</p>`
- **Internal CSS:** Written within a `<style>` tag in the HTML `<head>`.
- **External CSS:** Stored in a separate `.css` file linked using `<link>`.

7. What is the difference between `var`, `let`, and `const` in JavaScript?

- **var:** Function-scoped, can be re-declared and updated.
- **let:** Block-scoped, cannot be re-declared but can be updated.
- **const:** Block-scoped, cannot be re-declared or updated.

8. What is the difference between synchronous and asynchronous JavaScript?

- **Synchronous:** Code executes line-by-line, blocking the execution of subsequent code.
- **Asynchronous:** Code executes without waiting for other operations to complete, using callbacks, promises, or `async/await`.

9. What is React, and why is it used?

React is a JavaScript library for building user interfaces, primarily for single-page applications. It allows developers to create reusable components, manage state efficiently, and improve performance with features like the Virtual DOM.

10. How do you optimize the performance of a web page?

- Minimize HTTP requests.
- Use lazy loading for images.
- Minify and compress CSS, JS, and HTML files.
- Use a Content Delivery Network (CDN).
- Optimize images and use modern formats like WebP.
- Implement caching.

11. What is the difference between `==` and `===` in JavaScript?

- **==:** Performs type coercion before comparing values.
Example: `5 == "5" → true`
- **===:** Does not perform type coercion; compares both value and type.
Example: `5 === "5" → false`

12. What is the DOM?

The Document Object Model (DOM) is a tree-like representation of a web page's HTML and CSS. It allows JavaScript to interact with and manipulate the content and structure of the web page.