Question 1: **What are media queries in CSS, and why are they important for responsive design?**

* **Media queries** in CSS are a powerful tool that allow you to apply different styles to a webpage based on specific conditions such as screen size, resolution, orientation, and device type. They are a core component of **responsive web design**, which ensures that websites look and function well across a wide range of devices—from smartphones and tablets to laptops and desktop computers.

**What Are Media Queries?**

* A **media query** consists of a media type (like screen or print) and one or more expressions that check for conditions of a specific media feature (like min-width, max-width, or orientation).

**Basic Syntax:**

css

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

*body {*

*background-color: lightblue;*

*}*

*}*

* In this example, the background color changes to light blue on screens that are **768 pixels wide or narrower**.

**Why Are Media Queries Important for Responsive Design?**

1. **Device Adaptability:**
   * Media queries let your site adapt to different screen sizes, making it readable and functional on all devices.
2. **Improved User Experience:**
   * Content is easier to navigate and consume when it's appropriately sized and laid out for the device.
3. **Performance Optimization:**
   * You can serve lighter or more tailored styles to mobile users, improving loading times and usability.
4. **Design Flexibility:**
   * Media queries enable custom layouts, fonts, images, and interactive elements for different contexts.
5. **SEO and Accessibility:**
   * Search engines favor mobile-friendly websites, and a responsive design can better support accessibility needs.

**Common Media Query Use Cases**

css

*/\* Smartphones (portrait) ----------- \*/*

*@media (max-width: 600px) {*

*.container {*

*flex-direction: column;*

*}*

*}*

*/\* Tablets (landscape and portrait) ----------- \*/*

*@media (min-width: 601px) and (max-width: 1024px) {*

*.container {*

*flex-direction: row;*

*}*

*}*

*/\* Desktops ----------- \*/*

*@media (min-width: 1025px) {*

*.container {*

*width: 80%;*

*margin: 0 auto;*

*}*

*}*

Question 2: **Write a basic media query that adjusts the font size of a webpage for screens smaller than 600px.**

css

*/\* Default styles for larger screens \*/*

*body {*

*font-size: 18px;*

*line-height: 1.6;*

*font-family: Arial, sans-serif;*

*margin: 0;*

*padding: 0;*

*}*

*/\* Media query for screens smaller than 600px \*/*

*@media (max-width: 600px) {*

*body {*

*font-size: 14px;*

*}*

*h1 {*

*font-size: 24px;*

*}*

*p {*

*font-size: 13px;*

*}*

*}*