**Q3. What are media queries in CSS, and what is the purpose of using them in web design?**

**Media Queries in CSS:**

Media queries in CSS are used to apply different styles to a website based on the characteristics of the device or viewport, such as screen size, resolution, and orientation. This enables responsive design, which ensures that websites adapt to various devices (desktops, tablets, smart phones) and provide an optimal user experience.

**Purpose:**

* Allow websites to be responsive and adapt to different screen sizes and device types.
* Improve user experience by adjusting layouts, font sizes, and images based on the device.
* Enhance performance by loading device-specific resources (e.g., smaller images for mobile).

**How They Work:**

* Media queries check conditions like max-width, min-width, orientation, and resolution to apply specific styles.
* Example: Adjust layout from a multi-column design to a single-column design for mobile screens.

**Common Use Cases**:

* Change font size and layout for different devices.
* Make navigation menus mobile-friendly.
* Load optimized images for high-resolution devices.