1.What are media queries in CSS and their use case?

Ans. Media queries are a feature in CSS that allow developers to apply styles based on the characteristics of the user's device, such as screen size, resolution, or orientation. They are a key component of **responsive web design**.

Syntax of Media Queries

A media query consists of:

1. The `@media` rule.
2. A media type (like `screen`, `print`, `all`).
3. One or more conditions (like `max-width`, `min-width`, `orientation`).

Use Cases of Media Queries

1. **Responsive Layouts** – Adjust layouts for different screen sizes.

   (Switches a flex container to a column layout on small screens.)

2. **Dark Mode Adaptation** – Apply styles based on the user's color preference.

3. **Device-Specific Styling** – Adjust styles based on device features

   (Changes the banner height when in landscape mode.)

4. **High-Resolution Displays (Retina Screens)** – Optimize images for high-resolution screens.
5. **Print Styles** – Define styles for printing pages.

2. Difference between min-width and max-width in media queries in CS

Ans. **Difference Between `min-width` and `max-width` in Media Queries**

Both `min-width` and `max-width` are used in **responsive design** to apply CSS styles based on screen width. The main difference lies in **how they target screen sizes**:

Property	Description	Use Case
`min-width`	Applies styles when the screen width is **greater than or equal to** the specified value.	Used for **mobile-first** design (styles apply as the screen gets larger).
`max-width`	Applies styles when the screen width is **less than or equal to** the specified value.	Used for **desktop-first** design (styles apply as the screen gets smaller).

3. Explain float property and clear property in CSS with examples.

Ans. 1. `float` Property in CSS

The `float` property is used to position elements to the left or right of their container, allowing text or inline elements to wrap around them.

Syntax:
```css
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element {
  float: left | right | none | inherit;
}
```

- `left` → Floats the element to the left.
- `right` → Floats the element to the right.
- `none` → Default value, the element does not float.
- `inherit` → Inherits the float property from its parent.

Explanation: The image will move to the left, and the text will wrap around it.

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2. `clear` Property in CSS

The `clear` property is used to prevent elements from wrapping around floated elements.

Syntax:
```css
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element {
  clear: left | right | both | none | inher
```

- `left` → Prevents elements from appearing next to left-floated elements.
- `right` → Prevents elements from appearing next to right-floated elements.
- `both` → Prevents elements from appearing next to both left and right-floated elements.
- `none` → Default value, allows elements to appear next to floats.

Explanation:

- The floating box is floated **left**.
- The paragraph text wraps around it.
- The `.clearfix` div uses `clear: both;` to **prevent any floating effects** and starts on a new line.

When to Use `float` and `clear`

 Use `float` for layouts where elements need to be aligned side by side (e.g., images with text wrapping).
 Use `clear` when you need to **prevent layout issues** caused by floating elements.