Bootstrap

1. What is Bootstrap? Why do we use it?

* Bootstrap is a free and open-source \*\*front-end framework\*\* used for designing responsive and mobile-first websites.

It provides ready-made CSS and JavaScript components\*\* like buttons, forms, modals, grid system, navbar, etc.

\*Why use it?

\* Saves development time

\* Mobile-first and responsive

\* Cross-browser compatibility

\* Predefined styles & components

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2. Difference between Bootstrap 4 and Bootstrap 5

| Feature | Bootstrap 4 | Bootstrap 5 |

| ----------------- | --------------------------- | ----------------------------------- |

| jQuery Support | Required | Removed (pure JavaScript) |

| Grid System | 12 columns | 12 columns + Extra breakpoint `xxl` |

| Forms | Custom forms need extra CSS | New enhanced form controls |

| Icons | No default icons | Bootstrap Icons introduced |

| Internet Explorer | Supported | Dropped support for IE10 & IE11 |

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3. Purpose of the Bootstrap Grid System\*\*

* The grid system allows developers to create \*\*responsive layouts\*\* using rows and columns.

\* It divides the page into \*\*12 equal columns\*\*.

\* You can combine columns (e.g., `col-6` + `col-6` = full width).

\* Works with \*\*breakpoints\*\* for responsiveness.

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4. How many columns are available in the Bootstrap grid system?

* Bootstrap grid system is based on \*\*12 columns\*\*.

👉 You can use these columns individually (`col-1` to `col-12`) or combine them to make flexible layouts.

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5. Difference between `container`, `container-fluid`, and `container-{breakpoint}`\*\*

\* \*\*`.container`\*\* → Fixed-width container, changes size at breakpoints.

\* \*\*`.container-fluid`\*\* → Full-width container (100% width at all breakpoints).

\* \*\*`.container-{breakpoint}`\*\* → Container becomes fixed-width \*\*only after that breakpoint\*\* (e.g., `container-md` becomes fixed after medium screens).

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6. What are breakpoints in Bootstrap? Explain with example.

✅ Breakpoints are \*\*responsive design points\*\* that define how content should behave on different screen sizes.

Default Bootstrap 5 breakpoints:

\* `xs` → Extra small ( <576px )

\* `sm` → Small ( ≥576px )

\* `md` → Medium ( ≥768px )

\* `lg` → Large ( ≥992px )

\* `xl` → Extra large ( ≥1200px )

\* `xxl` → Extra extra large ( ≥1400px )

👉 Example:

```html

<div class="col-12 col-md-6 col-lg-4">Content</div>

```

\* Full width on small screens

\* Half width on medium screens

\* One-third width on large screens

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7. What are Bootstrap utility classes? Give 5 examples.

✅ Utility classes are \*\*predefined helper classes\*\* in Bootstrap that allow quick styling without writing custom CSS.

Examples:

1. `text-center` → Aligns text to the center

2. `mt-3` → Adds margin-top

3. `p-2` → Adds padding

4. `d-flex` → Makes an element a flex container

5. `bg-primary` → Sets background color to Bootstrap’s primary theme

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8. Difference between `inline`, `block`, and `inline-block` elements in Bootstrap

\* \*\*Inline\*\* (`d-inline`) → Takes only the width of its content, does not start on a new line (e.g., `<span>`).

\* \*\*Block\*\* (`d-block`) → Takes full width and always starts on a new line (e.g., `<div>`).

\* \*\*Inline-block\*\* (`d-inline-block`) → Behaves like inline but allows setting width/height (mix of inline + block).

👉 Example:

```html

<span class="d-inline">Inline</span>

<div class="d-block">Block</div>

<span class="d-inline-block" style="width:100px;">Inline-block</span>

```