BootStrap:

**1. Bootstrap Fluid Container**

**🔹 .container-fluid**

* It creates a **full-width container** that **always spans 100%** of the width of the viewport, regardless of screen size.

**2. Breakpoints**

Bootstrap is **mobile-first** and uses **breakpoints** to create responsive layouts.

| **Breakpoint** | **Class Prefix** | **Min Width** |
| --- | --- | --- |
| Extra small | xs | <576px (no prefix needed) |
| Small | sm | ≥576px |
| Medium | md | ≥768px |
| Large | lg | ≥992px |
| Extra large | xl | ≥1200px |
| XXL | xxl | ≥1400px |

**3. Colors and Background Colors**

Bootstrap provides **utility classes** for text and background colors.

**🔹 Text Color**

<p class="text-primary">Primary color text</p>

<p class="text-danger">Danger color text (usually red)</p>

**🔹 Background Color**

<div class="bg-success text-white">Green background with white text</div>

<div class="bg-warning text-dark">Yellow background with dark text</div>

**4. Flex (Flexbox in Bootstrap)**

Bootstrap uses d-flex and other utility classes to apply **flexbox layout**.

**🔹 Basic Usage:**

<div class="d-flex justify-content-between">

<div>Item 1</div>

<div>Item 2</div>

</div>

**🔹 Common Flex Classes:**

| **Class** | **Description** |
| --- | --- |
| d-flex | Enables flexbox |
| justify-content-start/end/center/between/around | Controls horizontal alignment |
| align-items-start/center/end | Controls vertical alignment |
| flex-row / flex-column | Direction of flex items |

**5. Class and Property**

In Bootstrap:

* A **class** is a predefined CSS style you apply using the class attribute.
* Each class usually changes one or more **CSS properties**.

**🔹 Example:**

<p class="text-danger fw-bold">This is bold and red</p>

* text-danger sets the **color** property.
* fw-bold sets the **font-weight** property.

**6. Container**

As mentioned earlier:

* .container → fixed-width responsive container.
* .container-fluid → full-width at all breakpoints.

<div class="container">

This is a responsive fixed-width container.

</div>

**7. Typography**

Bootstrap provides utility classes for:

* Headings
* Text styles
* Font weights
* Alignment
* Line height

**🔹 Examples:**

<h1 class="display-1">Big Heading</h1>

<p class="lead">This is lead paragraph text</p>

<p class="text-center text-muted">Centered and muted</p>

<p class="fw-light fst-italic">Light weight and italic</p>

**8. Images**

Bootstrap helps style images responsively and beautifully.

**🔹 Responsive Image**

<img src="image.jpg" class="img-fluid" alt="Responsive image">

* img-fluid makes the image scale with the parent.

**🔹 Rounded & Circle**

<img src="image.jpg" class="rounded" alt="..."> <!-- Slightly rounded corners -->

<img src="image.jpg" class="rounded-circle" alt="..."> <!-- Circle -->

**🔹 Thumbnail Style**

<img src="image.jpg" class="img-thumbnail" alt="...">

**Summary Table**

| **Concept** | **Bootstrap Class** | **Notes** |
| --- | --- | --- |
| Fluid Container | container-fluid | Full-width at all breakpoints |
| Fixed Container | container | Width changes with breakpoints |
| Breakpoints | col-sm-6, d-md-block | For responsive design |
| Text Color | text-primary, text-danger | Predefined text colors |
| Background | bg-success, bg-light | Predefined background colors |
| Flexbox | d-flex, justify-content-between | Easy flex layout |
| Typography | fw-bold, fst-italic | Font weight, style, etc. |
| Responsive Images | img-fluid, rounded, img-thumbnail | Resize and style images |