

Chapter 6

Links and scripts for bootstrap

Type	Code (write these highlighted link and script in exam)	Description	When to Use
CSS (Required)	<code><link rel="stylesheet" href="bootstrap.min.css"></code>	Loads Bootstrap's styles (layout, components, utilities). Must be included in every Bootstrap project.	Always use. Needed for all Bootstrap designs and components.
Bundle JS (Recommended)	<code><script src="bootstrap.bundle.min.js"></script></code>	Includes Bootstrap JS + Popper in one file. Simple and efficient.	Use this most of the time. Best for beginners and general projects.
Separate JS	<code><script src="popper.min.js"></script></code> <code><script src="bootstrap.min.js"></script></code>	Popper and Bootstrap JS are loaded separately. Allows manual control of dependencies.	Use only when you already include Popper separately or need advanced customization.

Code(use these to integrate Bootstrap in your code)

CSS (Required)

```
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css"
      rel="stylesheet" integrity="sha384-EVSTQN3/azprG1Anm3QDgpJLIm9Nao0Yz1ztcQTwFspd3yD65VohhpooC0mLASjC" crossorigin="anonymous">
```

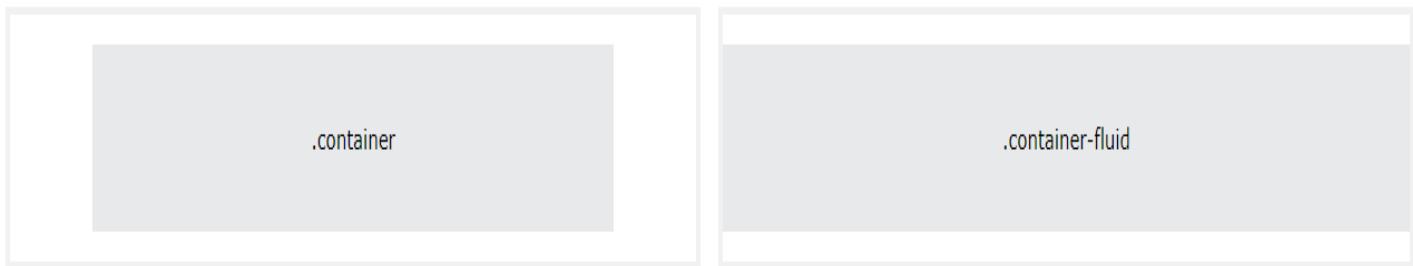
Bundle JS (Recommended)

```
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.bundle.min.js"
integrity="sha384-MrcW6ZMFYlzcLA8Nl+NTUf0sA7MsXsP1UYJoMp4YLEuNSfAP+JcXn/tWtIaxVXM"
crossorigin="anonymous"></script>
```

Separate JS

```
<script src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.9.2/dist/umd/popper.min.js"
integrity="sha384-IQsoLX15PILFhosVNubq5LC7Qb9DXgDA9i+tQ8Zj3iwWAwPtgFTxbJ8NT4GN1R8p"
crossorigin="anonymous"></script>
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.min.js"
integrity="sha384-cVKIPhGWic2Al4u+LwgxfKTRIcfu0JTxR+EQDz/bgldoEy14H0zUF0QKbrJ0EcQF"
crossorigin="anonymous"></script>
```

Class	Width
.container	Has a fixed width and stays centered on the page.
.container-fluid	Always 100% full width , stretching across the entire screen.



Bootstrap 5 Breakpoints & Container Max-Width

Screen Size	Abbrev.	Breakpoint	.container Max-Width
Extra small	xs	< 576px	100%
Small	sm	≥ 576px	540px
Medium	md	≥ 768px	720px
Large	lg	≥ 992px	960px
Extra large	xl	≥ 1200px	1140px
Extra extra large	xxl	≥ 1400px	1320px

Bootstrap Utility Classes

Spacing Utilities

1. Property (what you are setting)

Token	Meaning
m	margin
p	padding

2. Side (where it applies)

Token	Applies To
(blank)	all sides
t	top
b	bottom
s	start (left in LTR, right in RTL)
e	end (right in LTR, left in RTL)
x	left + right
y	top + bottom

3. Size (how much spacing)

Token	Value (default)
0	0
1	0.25rem
2	0.5rem
3	1rem
4	1.5rem
5	3rem

Token	Value (default)
auto	auto (margin only)

Sizing

Width Classes (w-*)

Class	What It Means	Description
w-25	width: 25%	Element takes 25% of its parent's width.
w-50	width: 50%	Element takes half of the parent's width.
w-75	width: 75%	Element takes 75% of the parent's width.
w-100	width: 100%	Element stretches to the full width of its parent.
w-auto	width: auto	Width adjusts to the content's natural size.

Height Classes (h-*)

Class	What It Means	Description
h-25	height: 25%	Element's height becomes 25% of its parent container.
h-50	height: 50%	Half the height of the parent.
h-75	height: 75%	75% of the parent's height.
h-100	height: 100%	Fills the entire height of the parent.
h-auto	height: auto	Height adapts based on content.

Text Colors

Class	Description (Expanded Meaning)
<code>text-primary</code>	Applies the theme's main "primary" color (usually blue).
<code>text-secondary</code>	Applies a secondary accent color (usually gray).
<code>text-success</code>	Applies the success color (green), often used for positive messages.
<code>text-danger</code>	Applies the danger color (red), used for errors or warnings.
<code>text-warning</code>	Applies the warning color (yellow/orange), used for caution messages.
<code>text-info</code>	Applies the info color (teal/light blue), used for informational notes.
<code>text-dark</code>	Applies a dark gray/black text color.
<code>text-light</code>	Applies a very light/white-ish text color.
<code>text-muted</code>	Applies a soft, faded gray color used for less important text.
<code>text-white</code>	Applies pure white text color (#fff) to the element. Useful for dark backgrounds, headers, footers, banners, buttons, and overlays.

Background Colors

Class	Text Color Used	Description
<code>bg-primary</code>	<code>text-white</code>	Applies the primary theme background color (usually blue).
<code>bg-secondary</code>	<code>text-white</code>	Applies the secondary gray background color.
<code>bg-success</code>	<code>text-white</code>	Applies the success (green) background color.
<code>bg-danger</code>	<code>text-white</code>	Applies the danger (red) background color.
<code>bg-warning</code>	<code>text-dark</code>	Applies the warning (yellow/orange) background color.
<code>bg-info</code>	<code>text-dark</code>	Applies the info (teal/light-blue) background color.
<code>bg-light</code>	<code>text-dark</code>	Applies a very light gray/white background.
<code>bg-dark</code>	<code>text-white</code>	Applies a dark gray/black background.
<code>bg-white</code>	<code>text-dark</code>	Sets the background to pure white (#fff).
<code>bg-transparent</code>	<code>text-dark</code>	Makes the background fully transparent (no color).

Typography and text utilities

Class	Category	Description
<code>text-lowercase</code>	Text Transform	Converts all letters in the text to lowercase.
<code>text-uppercase</code>	Text Transform	Converts all letters in the text to uppercase.

Class	Category	Description
text-capitalize	Text Transform	Capitalizes the first letter of each word , leaving other letters unchanged.
text-decoration-none	Text Decoration	Removes underline and other text decoration (useful for links).
text-decoration-underline	Text Decoration	Adds an underline under the text.
text-decoration-line-through	Text Decoration	Adds a line through the text (strikethrough).
text-start	Alignment	Aligns text to the left (start). RTL-aware.
text-center	Alignment	Centers the text horizontally.
text-end	Alignment	Aligns text to the right (end). RTL-aware.
fs-1 to fs-6	Font Size	Sets the font size. fs-1 is largest, fs-6 is smallest. Matches HTML heading scale.
fw-bold	Font Weight	Makes the text bold.
fw-bolder	Font Weight	Makes the text bolder than the parent element.
fw-light	Font Weight	Applies a light font weight.
fw-lighter	Font Weight	Makes the text lighter than the parent element.
fst-italic	Font Style	Applies italic styling.
fst-normal	Font Style	Removes italic styling; returns to normal.

Shadows

Class	Detailed Description
shadow-sm	Adds a small, subtle shadow , giving a light lifted look without strong depth.
shadow	Applies a standard (medium) shadow , commonly used for cards and floating elements.
shadow-lg	Adds a large, deeper shadow to create strong elevation and highlight prominence.

Borders

Class	Detailed Description
border	Adds a 1px solid border to all four sides of the element using the default border color.
border-0	Removes all borders , overriding any border styles the element may have.
border-top	Adds a border only to the top edge of the element.
border-bottom	Adds a border only to the bottom edge of the element.
border-start	Adds a border to the start side (left in LTR, right in RTL).
border-end	Adds a border to the end side (right in LTR, left in RTL).
border-primary	Applies the primary theme color to the border.
border-secondary	Applies the secondary theme color to the border.
border-success	Applies the success (green) color to the border.
border-danger	Applies the danger (red) color to the border.
border-warning	Applies the warning (yellow/orange) color to the border.
border-info	Applies the info (teal/light-blue) color to the border.
border-dark	Applies a dark-colored border.
border-light	Applies a very light-colored border.
border-white	Applies a white border (useful on dark backgrounds).
border-1	Sets border thickness to thin (1px) .
border-2	Sets border thickness to medium-thin .
border-3	Medium thickness, more visible border.
border-4	Thick border for emphasis.
border-5	Very thick, bold border (strong visual emphasis).
rounded	Adds standard rounded corners (0.25rem).
rounded-circle	Makes the element fully circular using border-radius: 50% (works best when width = height).

Display

Class	Description (Expanded & Easy Explanation)
d-none	Completely hides the element. It does not take up any space on the page.

Class	Description (Expanded & Easy Explanation)
d-block	Makes the element a block-level element . It starts on a new line and takes the full width available.
d-inline	Makes the element an inline element . It does not start on a new line and only takes the width of its content.
d-inline-block	Acts like inline (no line break) but allows setting width and height like a block element.
d-flex	Turns the element into a flex container , enabling Flexbox layout for arranging child elements.
d-inline-flex	Same as d-flex, but the element behaves inline (no line break before/after).
d-grid	Turns the element into a CSS Grid container , enabling grid layout for its children.

Flex

Class	Description
d-flex	Makes the element a flex container (display: flex).
d-inline-flex	Makes the element an inline flex container (display: inline-flex).
flex-row	Flex items are laid out in a row (horizontal).
flex-row-reverse	Flex items laid out in a row but in reverse order.
flex-column	Flex items laid out in a column (vertical).
flex-column-reverse	Flex items laid out in a column in reverse order.
justify-content-start justify-content-end justify-content-center justify-content-between justify-content-around justify-content-evenly	Controls alignment of flex items along main axis (horizontal for row, vertical for column).
	Controls alignment of flex items along the cross axis.

Class	Description
align-items-center	

Positioning

Class	Detailed Description
position-static	Default position. The element stays in normal document flow and is not affected by top/start/end/bottom offsets.
position-relative	The element stays in the normal flow but can be shifted using top/start/end/bottom without affecting other elements' layout. Often used as a containing parent for absolutely positioned children.
position-absolute	The element is removed from normal flow and positioned relative to its nearest positioned ancestor (not static). Uses offsets to place itself precisely.
position-fixed	Stays fixed relative to the viewport . Does not move even when the page scrolls. Common for sticky headers, floating buttons, and alerts.
position-sticky	Acts like relative until a scroll threshold is reached, then becomes fixed at the top (or side) based on offsets. Useful for sticky headers or sidebars.
top-0 / top-50 / top-100	Moves the element down from the top edge of its positioned container by 0%, 50%, or 100%.
bottom-0 / bottom-50 / bottom-100	Moves the element upward from the bottom by the given percentage.
start-0 / start-50 / start-100	Offsets from the start side (left in LTR, right in RTL).
end-0 / end-50 / end-100	Offsets from the end side (right in LTR, left in RTL).

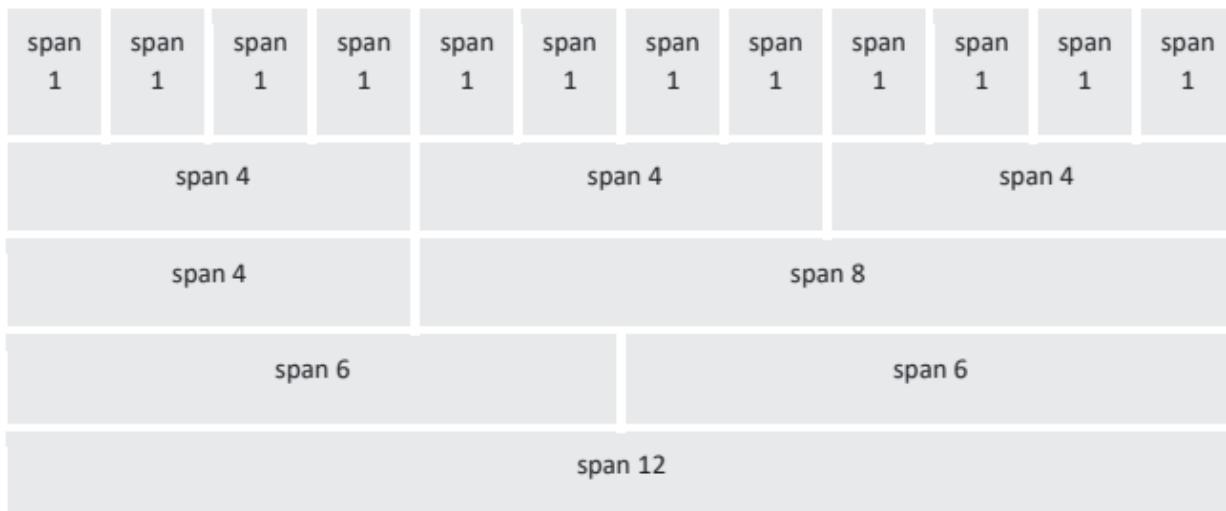
Images

Class	Description	What It Looks Like
img-fluid	Makes image responsive.	Image adjusts size automatically
rounded	Gives the image small rounded corners.	Slightly curved edges
rounded-circle	Makes the image a perfect circle	Circular profile photo
img-thumbnail	Adds a border + padding to look like a photo frame.	Thumbnail-style border

Table classes

Class	Description
table	Adds basic Bootstrap table styling.
table-striped	Adds zebra-striped rows (alternating light/dark rows).
table-bordered	Adds borders to all table cells.
table-borderless	Removes all borders.
table-hover	Adds a highlight effect when hovering over rows.
table-sm	Makes table more compact with reduced padding.
table-dark	Applies a dark theme to the entire table.
table-light	Applies a light theme (usually default).
table-primary / secondary / success / danger / warning / info / dark / light	Applies contextual color to the entire row or cell .
table-responsive	Makes table horizontally scrollable on small screens.

Grid options



Breakpoint	Class Prefix	Width
Extra small	.col-	<576px
Small	.col-sm-	≥576px
Medium	.col-md-	≥768px
Large	.col-lg-	≥992px
Extra large	.col-xl-	≥1200px
Extra extra large	.col-xxl-	≥1400px

Class Pattern	Meaning	Behavior
col	Auto column	All .col in a row share equal width on all screens.
col-*	Fixed width	* = number (1-12); width stays same on all screens.
col-sm-*	Small screens up	Applies width at ≥576px; below this size it stacks. * = number (1-12);
col-md-*	Medium screens up	Applies width at ≥768px; below this it stacks. * = number (1-12);

Class Pattern	Meaning	Behavior
<code>col-lg-</code> *	Large screens up	Applies width at $\geq 992\text{px}$; below this it stacks. * = number (1-12);
<code>col-xl-</code> *	Extra-large screens up	Applies width at $\geq 1200\text{px}$. * = number (1-12);
<code>col-xxl-</code> *	Extra-extra-large screens up	Applies width at $\geq 1400\text{px}$. * = number (1-12);

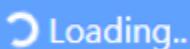
Alerts

Part	Meaning	Explanation
<code>alert</code>	Makes the element a Bootstrap alert	Applies alert formatting
<code>.alert-success,</code> <code>.alert-info,</code> <code>.alert-warning,</code> <code>.alert-danger,</code> <code>.alert-primary,</code> <code>.alert-secondary,</code> <code>.alert-light</code> <code>.alert-dark.</code>	Color of an alert	Contextual color
<code>alert-dismissible</code>	Makes the alert closable	Adds padding for the close button
<code>fade</code>	Adds fade animation	Alert fades out smoothly when closed
<code>show</code>	Makes fade animation visible	Shows alert immediately with fade effect
<code>btn-close</code>	Bootstrap close (x) button	Replaces the old close icon
<code>data-bs-dismiss="alert"</code>	Dismisses (closes) the alert	Tells Bootstrap JS to remove the alert when clicked

Buttons

Part / Class	Meaning	Explanation
btn	Base button class	Required for all Bootstrap buttons. Gives basic button styling.
btn-colorname (e.g., btn-primary)	Solid colored button	Applies a filled background color such as primary, secondary, success, etc.
btn-outline-colorname (e.g., btn-outline-primary)	Outline button	Transparent background with colored border and text.
active	Active state styling	Makes the button look pressed or selected.
disabled / disabled attribute	Disabled state	Makes the button unclickable and faded.
spinner-border	Border loading spinner	Circular loader with a spinning border. 
spinner-border-sm	Small border spinner	Smaller version of spinner-border.
spinner-grow	Grow-style spinner	Dot that grows and shrinks. 
spinner-grow-sm	Small grow spinner	Smaller version of spinner-grow.
btn-lg	Large button	Bigger button with more padding and larger text.
btn-sm	Small button	Smaller button with reduced padding.

```
<button class="btn btn-primary" disabled>
<span class="spinner-border spinner-border-sm"></span>
Loading..
</button>
```



Dropdowns

Class / Attribute	Type	Meaning / Use
dropdown	Class	Wrapper that activates dropdown component.
btn	Class	Base button styling.
btn-secondary	Class	Button color style (secondary theme).
dropdown-toggle	Class	Adds dropdown arrow and enables toggle styling.
dropdown-menu	Class	The menu container that appears when opened.
dropdown-item	Class	Styles each menu link/item.
data-bs-toggle="dropdown"	Attribute	Most important attribute. Tells Bootstrap to open/close the dropdown.
dropdown-header	Class	Creates a non-clickable header inside dropdown.
dropdown-divider	Class	Creates a horizontal separator line.
disabled	Class	Makes a dropdown item unclickable and faded.
active	Class	Highlights the dropdown item as selected.

Collapse

Item	Type	Meaning / Function
btn	Class	Base Bootstrap button styling.
btn-primary	Class	Blue primary button style.
data-bs-toggle="collapse"	Attribute	Tells Bootstrap JS to toggle a collapse component when clicked.
href="#collapseExample"	Attribute (link version)	The target collapse element ID (for <a> tag triggers). Works the same as data-bs-target.
data-bs-target="#collapseExample"	Attribute (button version)	Points to the collapse element by ID (used with <button>).

Item	Type	Meaning / Function
collapse	Class	Makes the div collapsible (hidden by default).
id="collapseExample"	Attribute	Matches the trigger's href or data-bs-target.
card-body	Class	Bootstrap card component wrapper.
card	Class	Proper padding and text formatting inside card.
show	Class	Make the collapsible element visible

Accordion

1. Container-Level Classes

Class / Attribute	Used On	Meaning / Purpose
accordion	<div id="accordionExample">	Creates a Bootstrap accordion wrapper.
accordion-item	Each accordion section	Defines a single accordion item/block.

2. Header & Button Classes

Class / Attribute	Used On	Meaning / Purpose
accordion-button	<button>	Styled button that triggers expand/collapse.
collapsed	<button> (when closed)	Indicates collapsed state (Bootstrap adds/removes this).
data-bs-toggle="collapse"	<button>	Tells Bootstrap to toggle collapse behavior.
data-bs-target="#collapseOne"	<button>	Points to the element that will collapse/expand.

3. Collapsible Content Classes

Class / Attribute	Used On	Meaning / Purpose
accordion-collapse	<div>	Wrapper for collapsible content inside accordion.
collapse	<div>	Makes the content collapsible (hidden by default).
show	<div>	Makes this section visible by default.
id="collapseOne"	<div>	Unique ID used to match a button's data-bs-target.
data-bs-parent="#accordionExample"	<div>	Ensures only one accordion item opens at a time (auto-close others).

4. Content Body Classes

Class / Attribute	Used On	Meaning / Purpose
accordion-body	<div>	Provides padding, text formatting, and structure for the content inside each accordion panel.

Cards

Class Name	Purpose / Description
card	The main container that creates a Bootstrap card.
card-img-top	It rounds the top corners automatically, Places an image at the top of the card. It automatically sizes the image to fit the card's width.
card-body	A section inside the card that holds text, links, buttons, and other content. Adds padding.
card-title	Styles the title text inside the card body. Usually used with headings (h5, h4, etc.).
card-text	Styles regular paragraph text inside the card body.
card-header	Adds a styled header section to the top of the card. <i>Optional.</i>

Purpose of different attributes.

Attribute	Values / Examples	Purpose
data-bs-toggle	modal, collapse, dropdown, button	Defines which Bootstrap component behavior to activate.
data-bs-target	#elementId, .className	Specifies the element that will be opened/toggled by the trigger.
data-bs-dismiss	modal, alert	Closes/dismisses the specified component when clicked.
data-bs-parent	#accordionParent	Groups collapsible items so only one stays open (accordion behavior).