Chapter 6

What is Bootstrap?

- ✓ Bootstrap is the most popular HTML, CSS and JavaScript framework for developing a responsive and mobile friendly website.
- ✓ It is absolutely free to download and use.
- ✓ It is a front-end framework used for easier and faster web development.
- ✓ It includes HTML and CSS based design templates for typography, forms, buttons, tables, navigation, modals, image carousels and many others.
- ✓ It can also use JavaScript plug-ins.
- ✓ It facilitates you to create responsive designs.

What is a responsive website?

A website is called responsive website which can automatically adjust itself to look good on all devices, from smart phones to desktops etc.

History of Bootstrap

- ✓ Bootstrap was developed by Mark Otto and Jacob Thornton at Twitter.
- ✓ It was released as an open source product in August 2011 on GitHub.

Why Use Bootstrap?

Advantages of Bootstrap:

- ✓ **Easy to use:** Anybody with just basic knowledge of HTML and CSS can start using Bootstrap
- ✓ **Responsive features:** Bootstrap's responsive CSS adjusts to phones, tablets, and desktops
- ✓ **Mobile-first approach:** In Bootstrap 3, mobile-first styles are part of the core framework
- ✓ **Browser compatibility:** Bootstrap is compatible with all modern browsers (Chrome, Firefox, Internet Explorer, Edge, Safari, and Opera)

Where to Get Bootstrap?

There are two ways to start using Bootstrap on your own web site.

You can:

- Download Bootstrap from getbootstrap.com
- Include Bootstrap from a CDN

A **content delivery network (CDN)** is a network of interconnected servers that speeds up webpage loading for data-heavy applications. CDN can stand for content delivery network or content distribution network.

A web server in delhi hosts static web content that a website visitor located in ahmedabad, requests. Once the origin server in delhi receives the request, it sends a response to the website visitor.

Note:

One advantage of using the Bootstrap 4 CDN:

Many users already have downloaded Bootstrap 4 from jsDelivr when visiting another site. As a result, it will be loaded from cache when they visit your site, which leads to faster loading time. Also, most CDN's will make sure that once a user requests a file from it, it will be served from the server closest to them, which also leads to faster loading time.

jQuery and Popper?

Bootstrap 4 uses jQuery and Popper.js for JavaScript components (like modals, tooltips, popovers etc). However, if you just use the CSS part of Bootstrap, you don't need them.

Bootstrap 4 CDN

- ✓ If you don't want to download and host Bootstrap 4 yourself, you can include it from a CDN.
- ✓ **jsDelivr** provides CDN support for Bootstrap's CSS and JavaScript. You must also include jQuery:

Go to below link and add the required links and scripts to your code.

https://getbootstrap.com/docs/4.6/getting-started/introduction/

Below are the links and scripts for bootstrap 4

Separate

```
<!-- Latest compiled and minified CSS -->
<link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/css/bootstrap.
min.css">

<!-- jQuery library -->
<script src="https://cdn.jsdelivr.net/npm/jquery@3.5.1/dist/jquery.slim.min.js" ></script>

<!-- Popper JavaScript-->
<script
src="https://cdn.jsdelivr.net/npm/popper.js@1.16.1/dist/umd/popper.min.js"></script>

<!-- Bootstrap JavaScript bundle -->
<script src="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/js/bootstrap.min.js"></script>
```

Bundle

```
<!-- Latest compiled and minified CSS -->
<link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/css/bootstrap.min.css" >

<!-- jQuery library -->
<script src="https://cdn.jsdelivr.net/npm/jquery@3.5.1/dist/jquery.slim.min.js" ></script>

<!-- Bootstrap JavaScript bundle -->

<script
src="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/js/bootstrap.bundle.min.js"></script>
```

Downloading Bootstrap 4

If you want to download and host Bootstrap 4 yourself, go to https://getbootstrap.com/, and follow the instructions there.

https://getbootstrap.com/docs/4.6/getting-started/download/

This doesn’t include documentation, source files, or any optional JavaScript dependencies (jQuery and Popper).

Create First Web Page With Bootstrap 4

1. Add the HTML5 doctype

- ✓ Bootstrap 4 uses HTML elements and CSS properties that require the HTML5 doctype.
- ✓ Always include the HTML5 doctype at the beginning of the page, along with the lang attribute and the correct character set:

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
  </head>
</html>
```

2. Bootstrap 4 is mobile-first

- ✓ Bootstrap 4 is designed to be responsive to mobile devices. Mobile-first styles are part of the core framework.
- ✓ To ensure proper rendering and touch zooming, add the following <meta> tag inside the <head> element:

```
<meta name="viewport" content="width=device-width, initial-scale=1">
```

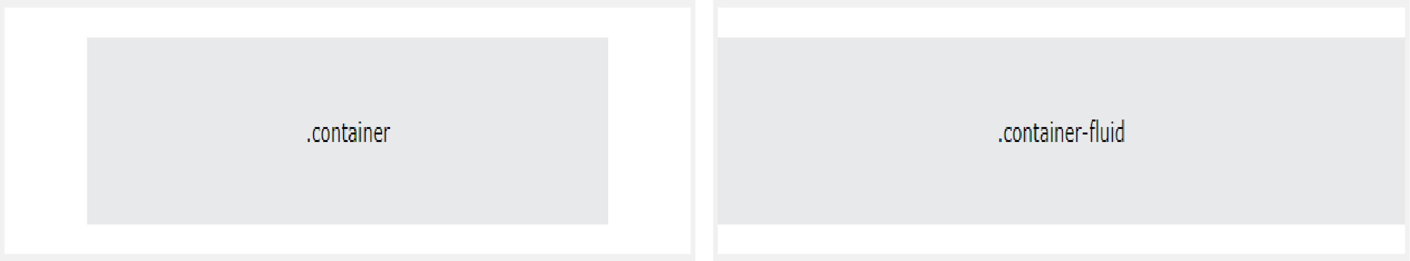
- ✓ The width=device-width part sets the width of the page to follow the screen-width of the device (which will vary depending on the device).
- ✓ The initial-scale=1 part sets the initial zoom level when the page is first loaded by the browser.

3. Containers

Containers are used to pad the content inside of them, and there are two container classes available:

1. The .container class provides a responsive **fixed width container**
2. The .container-fluid class provides a **full width container**, spanning the entire width of the viewport.

	Screen Size	**max-width**
Extra small (xs)	<576px	100%
Small (sm)	≥576px	540px
Medium (md)	≥768px	720px
Large (lg)	≥992px	960px
Extra large (xl)	≥1200px	1140px



Padding/Margin

- By default, containers have 15px left and right padding, with no top or bottom padding.
- Therefore, we often use **spacing utilities**, such as extra padding and margins to make them look even better.

For example, .pt-3 means "add a top padding of 16px":

Bootstrap has a wide range of responsive margin and padding utility classes. They work for all breakpoints:

xs (<576px), **sm** (>=576px), **md** (>=768px), **lg** (>=992px) or **xl** (>=1200px))

The classes are used in the format:

{property}{sides}-{size}

1. **m** - sets margin
2. **p** - sets padding
3. **t** - sets margin-top or padding-top (**mt/pt**)
4. **b** - sets margin-bottom or padding-bottom (**mb/pb**)
5. **l** - sets margin-left or padding-left (**ml/pl**)
6. **r** - sets margin-right or padding-right (**mr/pr)**
7. **x** - sets both padding-left and padding-right or margin-left and margin-right (**mx/px**)
8. **y** - sets both padding-top and padding-bottom or margin-top and margin-bottom (**my/py**)

- **0** - sets **margin** or **padding** to 0
- **1** - sets **margin** or **padding** to .25rem (4px if font-size is 16px)
- **2** - sets **margin** or **padding** to .5rem (8px if font-size is 16px)

- ✓ **3** - sets **margin** or **padding** to 1rem (16px if font-size is 16px)
- ✓ **4** - sets **margin** or **padding** to 1.5rem (24px if font-size is 16px)
- ✓ **5** - sets **margin** or **padding** to 3rem (48px if font-size is 16px)
- ✓ **auto** - sets margin to auto

Examples:

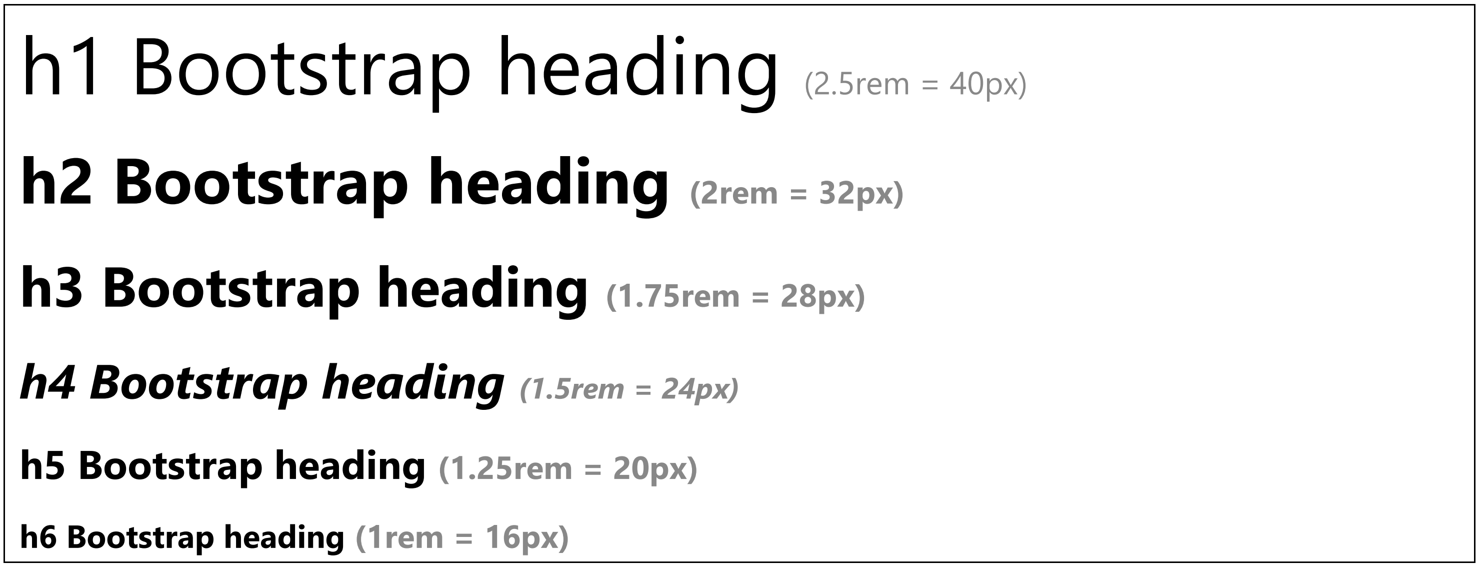
- ✓ mx-3 – 16 px margin from right and left
- ✓ pt-2 – 8px padding from top
- ✓ p-4 – 24px padding to all sides.
- ✓ mx-auto - .**mx-auto** class for horizontally centering fixed-width block level content

Text/Typography

- ✓ Bootstrap 4 uses a default font-size of 16px, and its line-height is 1.5.
- ✓ The default font-family is "Helvetica Neue", Helvetica, Arial, sans-serif.
- ✓ In addition, all <p> elements have margin-top: 0 and margin-bottom: 1rem (16px by default).

<h1> - <h6>

Bootstrap 4 styles HTML headings (`<h1>` to `<h6>`) with a bolder font-weight and an increased font-size:



h1 Bootstrap heading (2.5rem = 40px)

h2 Bootstrap heading (2rem = 32px)

h3 Bootstrap heading (1.75rem = 28px)

h4 Bootstrap heading (1.5rem = 24px)

h5 Bootstrap heading (1.25rem = 20px)

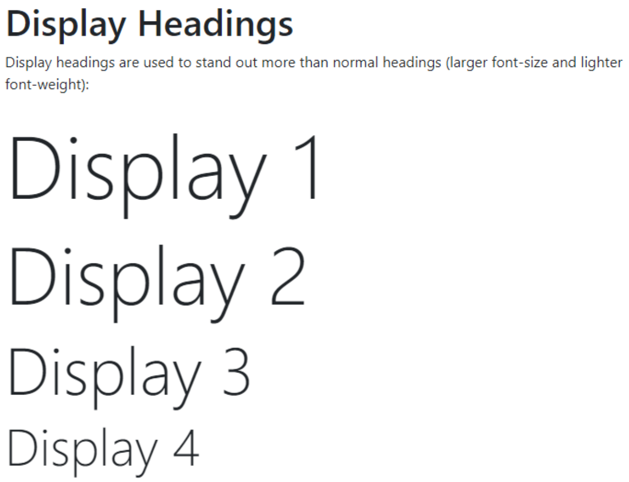
h6 Bootstrap heading (1rem = 16px)

Display Headings

Display headings are used to stand out more than normal headings (larger font-size and lighter font-weight), and there are four classes to choose from:

.display-1, .display-2, .display-3, .display-4

```
<div class="container">
  <h1>Display Headings</h1>
  <p>Display headings are used to stand out more than normal headings (larger font-size and lighter font-weight):</p>
  <h1 class="display-1">Display 1</h1>
  <h1 class="display-2">Display 2</h1>
  <h1 class="display-3">Display 3</h1>
  <h1 class="display-4">Display 4</h1>
</div>
```



Display Headings

Display headings are used to stand out more than normal headings (larger font-size and lighter font-weight):

Display 1

Display 2

Display 3

Display 4

More Typography Classes

The Bootstrap 4 classes below can be added to style HTML elements further:

.font-weight-bold	Bold text
.font-weight-bolder	Bolder text
.font-italic	Italic text
.font-weight-light	Light weight text
.font-weight-lighter	Lighter weight text

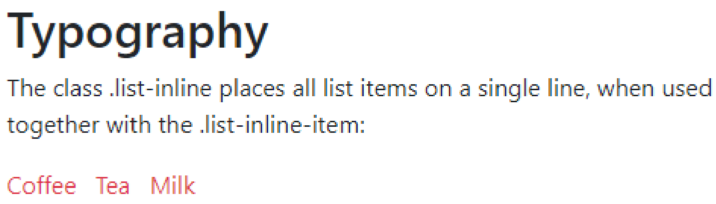
.font-weight-normal	Normal text
.text-left	Indicates left-aligned text
.text-*-left	Indicates left-aligned text on small, medium, large or xlarge screens. ***-xs/sm/md/lg/xl**
.text-center	Indicates center-aligned text
.text-*-center	Indicates center-aligned text on small, medium, large or xlarge screens ***-xs/sm/md/lg/xl**
.text-decoration-none	Removes the underline from a link
.text-right	Indicates right-aligned text
.text-*-right	Indicates right-aligned text on small, medium, large or xlarge screens ***-xs/sm/md/lg/xl**
.text-justify	Indicates justified text
.text-lowercase	Indicates lowercased text
.text-uppercase	Indicates uppercased text
.text-capitalize	Indicates capitalized text
.list-unstyled	Removes the default list-style and left margin on list items (works on both <ul> and <ol>). This class only applies to immediate children list items (to remove the default list-style from any nested lists, apply this class to any nested lists as well)
.list-inline	Places all list items on a single line (used together with **.list-inline-item** on each <li> elements)

list-inline and list-inline-item

The class .list-inline places all list items on a single line, when used together with the .list-inline-item:

```
<div class="container">
  <h2>Typography</h2>
  <p>The class .list-inline places all list items on a single line, when used together with the .list-inline-item:</p>
  <ul class="list-inline text-danger">
    <li class="list-inline-item">Coffee</li>
    <li class="list-inline-item">Tea</li>
    <li class="list-inline-item">Milk</li>
  </ul>
</div>
```

Output:



Typography

The class .list-inline places all list items on a single line, when used together with the .list-inline-item:

Coffee Tea Milk

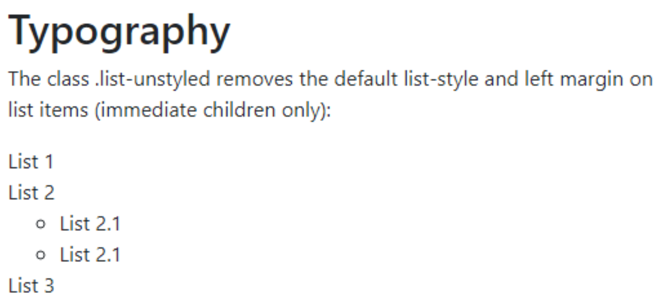
list-unstyled

The class .list-unstyled removes the default list-style and left margin on list items (immediate children only):

```
 <div class="container">
       <h2>Typography</h2>
       <p>The class .list-unstyled removes the default list-style and left margin on list items (immediate children only):</p>
       <ul class="list-unstyled">
         <li>List 1</li>
         <li>List 2
           <ul>
             <li>List 2.1</li>
             <li>List 2.1</li>
           </ul>
         </li>
         <li>List 3</li>
```

```
  </ul>
</div>
```

Output:



Typography

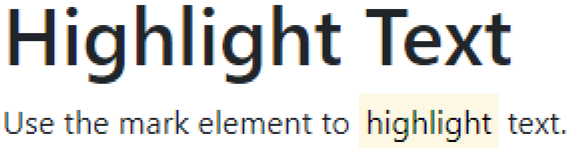
The class .list-unstyled removes the default list-style and left margin on list items (immediate children only):

```
List 1
List 2
   ○  List 2.1
   ○  List 2.1
List 3
```

Mark

Bootstrap will style the HTML <mark> element with a yellow background color and some padding:

```
<div class="container">
  <h1>Highlight Text</h1>
  <p>Use the mark element to <mark>highlight</mark> text.</p>
</div>
```



Highlight Text

Use the mark element to highlight text.

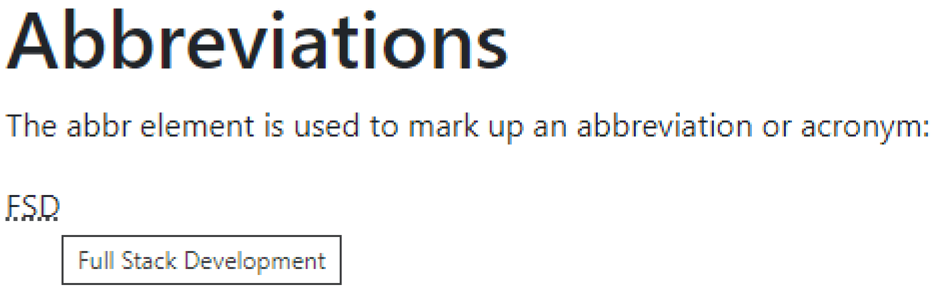
Abbreviation

- ✓ <abbr> - This is to denote abbreviation with its full form.
- ✓ Stylized implementation of HTML's <abbr> element for abbreviations and acronyms to show the expanded version on hover.
- ✓ Abbreviations have a default underline and gain a help cursor to provide additional context on hover and to users of assistive technologies.
- ✓ Use the global title attribute to show the description for the abbreviation/acronym when you mouse over the element.

Example

```
<div class="container">
 <h1>Abbreviations</h1>
 <p>The abbr element is used to mark up an abbreviation or acronym:</p>
 <abbr title="Full Stack Development">FSD</abbr>
</div>
```

Output:



Abbreviations

The abbr element is used to mark up an abbreviation or acronym:

FSD

Full Stack Development

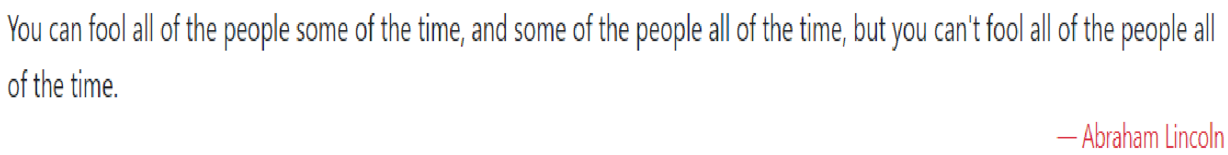
Blockquotes

- ✓ Typography Blockquotes is used to display the long quotations (a section that is quoted from another source).
- ✓ It changes the alignment to make it unique from others. To use this class we must use the **HTML blockquote tag** for better results.
- ✓ Add the .**blockquote** class to a <blockquote> when quoting blocks of content from another source.
- ✓ By adding element with .**blockquote**-**footer** class and **add – before the name**.

Example

```
  <blockquote class="blockquote">
    You can fool all of the people some of the time, and some of the people all of the time, but
you can't fool all of the people all of the time.
   <p class="text-danger text-right blockquote-footer">Abraham Lincoln</p>
   </blockquote>
```

Output:



You can fool all of the people some of the time, and some of the people all of the time, but you can't fool all of the people all of the time.

— Abraham Lincoln

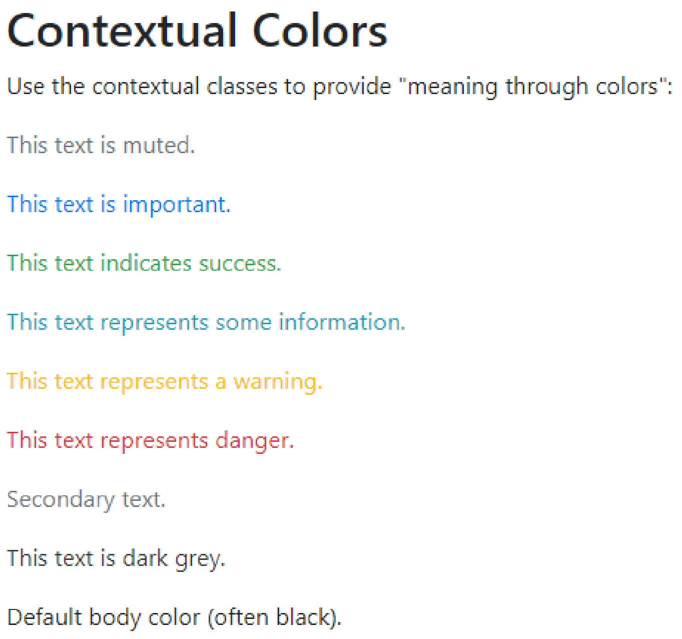
Colors

Bootstrap 4 has some contextual classes that can be used to provide "meaning through colors".

The classes for text colors are:

1. **.text-muted,**
2. **.text-primary,**
3. **.text-success,**
4. **.text-info,**
5. **.text-warning,**
6. **.text-danger,**
7. **.text-secondary,**
8. **.text-white,**
9. **.text-dark,**
10. **.text-body (default body color/often black)**
11. **.text-light**

```
<div class="container">
  <h2>Contextual Colors</h2>
  <p>Use the contextual classes to provide "meaning through colors":</p>
  <p class="text-muted">This text is muted.</p>
  <p class="text-primary">This text is important.</p>
  <p class="text-success">This text indicates success.</p>
  <p class="text-info">This text represents some information.</p>
  <p class="text-warning">This text represents a warning.</p>
  <p class="text-danger">This text represents danger.</p>
  <p class="text-secondary">Secondary text.</p>
  <p class="text-dark">This text is dark grey.</p>
  <p class="text-body">Default body color (often black).</p>
  <p class="text-light">This text is light grey (on white background).</p>
  <p class="text-white">This text is white (on white background).</p>
</div>
```



Contextual Colors

Use the contextual classes to provide "meaning through colors":

This text is muted.

This text is important.

This text indicates success.

This text represents some information.

This text represents a warning.

This text represents danger.

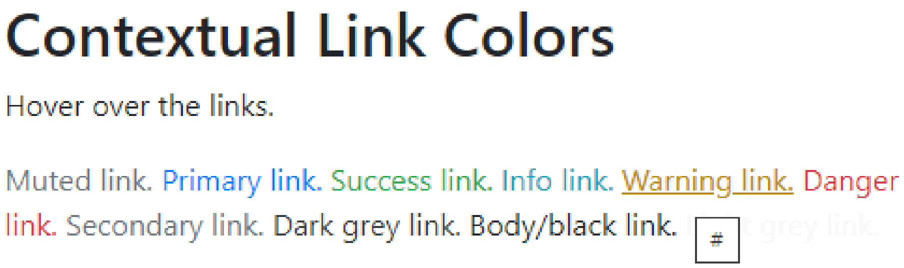
Secondary text.

This text is dark grey.

Default body color (often black).

Contextual text classes can also be used on links, which will add a darker hover color:

```
<body>
<div class="container">
  <h2>Contextual Link Colors</h2>
  <p>Hover over the links.</p>
  <a href="#" class="text-muted">Muted link.</a>
  <a href="#" class="text-primary">Primary link.</a>
  <a href="#" class="text-success">Success link.</a>
  <a href="#" class="text-info">Info link.</a>
  <a href="#" class="text-warning">Warning link.</a>
  <a href="#" class="text-danger">Danger link.</a>
  <a href="#" class="text-secondary">Secondary link.</a>
  <a href="#" class="text-dark">Dark grey link.</a>
  <a href="#" class="text-body">Body/black link.</a>
  <a href="#" class="text-light">Light grey link.</a>
</div>
</body>
```



Contextual Link Colors

Hover over the links.

Muted link. Primary link. Success link. Info link. Warning link. Danger link. Secondary link. Dark grey link. Body/black link. # grey link.

You can also add 50% opacity for black or white text with the .text-black-50 or .text-white-50 classes:

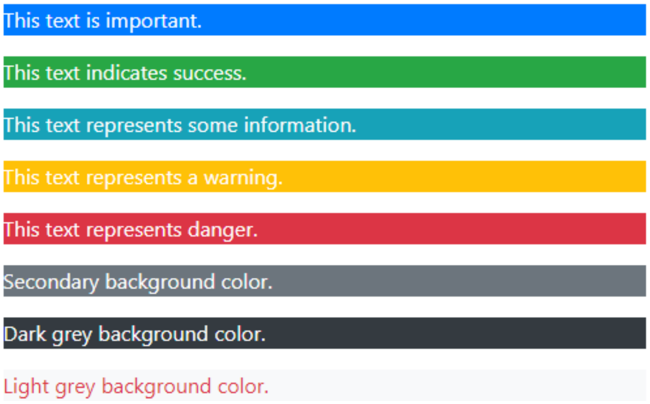
Background Colors

Use the contextual background classes to provide "meaning through colors".

The classes for background colors are:

1. **.bg-primary,**
2. **.bg-success,**
3. **.bg-info,**
4. **.bg-warning,**
5. **.bg-danger,**
6. **.bg-secondary,**
7. **.bg-dark,**
8. **.bg-light**

```
  <div class="container p-4">
    <p class="bg-primary text-white">This text is important.</p>
    <p class="bg-success text-white">This text indicates success.</p>
    <p class="bg-info text-white">This text represents some information.</p>
    <p class="bg-warning text-white">This text represents a warning.</p>
    <p class="bg-danger text-white">This text represents danger.</p>
    <p class="bg-secondary text-white">Secondary background color.</p>
    <p class="bg-dark text-white">Dark grey background color.</p>
    <p class="bg-light text-danger">Light grey background color.</p>
   </div>
```



This text is important.

This text indicates success.

This text represents some information.

This text represents a warning.

This text represents danger.

Secondary background color.

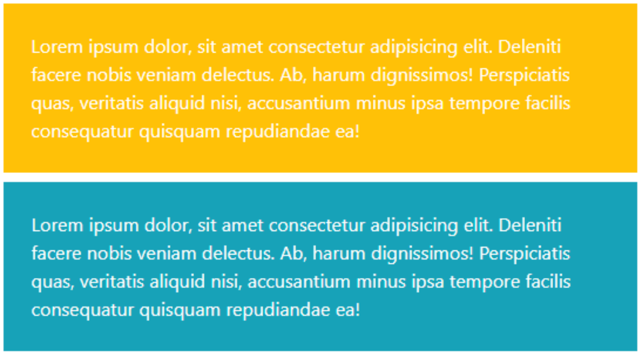
Dark grey background color.

Light grey background color.

Note that background colors do not set the text color, so in some cases you'll want to use them together with a .text-* class.

Example:

Use appropriate bootstrap classes to get an output as shown in below image.



Lorem ipsum dolor, sit amet consectetur adipisicing elit. Deleniti facere nobis veniam delectus. Ab, harum dignissimos! Perspiciatis quas, veritatis aliquid nisi, accusantium minus ipsa tempore facilis consequatur quisquam repudiandae ea!

Lorem ipsum dolor, sit amet consectetur adipisicing elit. Deleniti facere nobis veniam delectus. Ab, harum dignissimos! Perspiciatis quas, veritatis aliquid nisi, accusantium minus ipsa tempore facilis consequatur quisquam repudiandae ea!

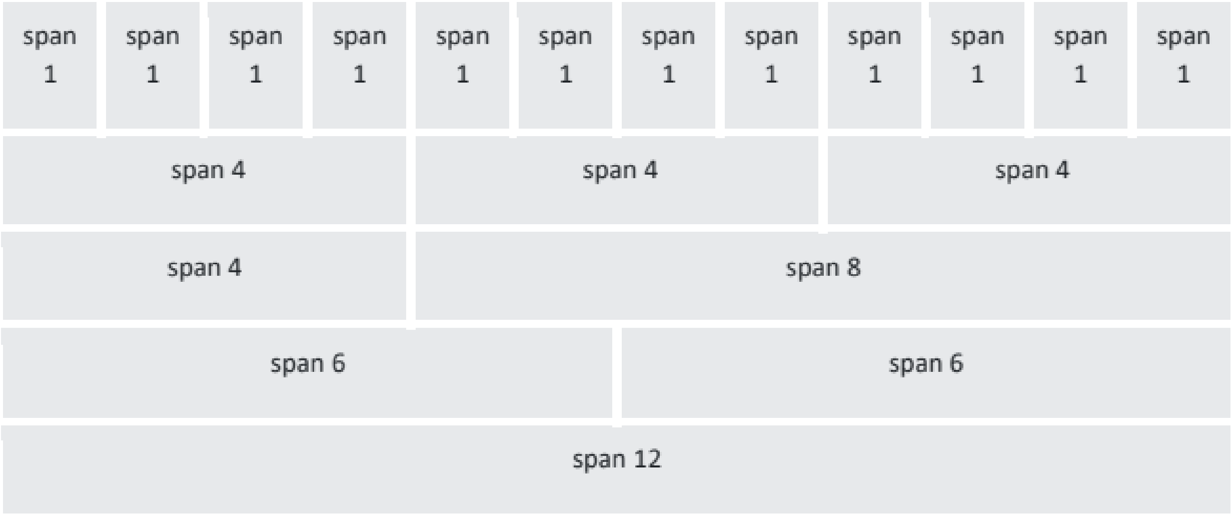
```
<div class="container text-white bg-warning p-4 mt-2">
      Lorem ipsum dolor, sit amet consectetur adipisicing elit. Deleniti facere nobis veniam
delectus. Ab, harum dignissimos! Perspiciatis quas, veritatis aliquid nisi, accusantium minus
ipsa tempore facilis consequatur quisquam repudiandae ea!
   </div>
   <div class="container text-white bg-info mt-2 p-4">
      Lorem ipsum dolor, sit amet consectetur adipisicing elit. Deleniti facere nobis veniam
delectus. Ab, harum dignissimos! Perspiciatis quas, veritatis aliquid nisi, accusantium minus
ipsa tempore facilis consequatur quisquam repudiandae ea!
   </div>
```

Grid options

Bootstrap 4 Grid System

- ✓ Bootstrap's grid system is built with flexbox and allows up to 12 columns across the page.
- ✓ If you do not want to use all 12 columns individually, you can group the columns together to create wider columns:
- ✓ The grid system is responsive, and the columns will re-arrange automatically depending on the screen size.
- ✓ Make sure that the sum adds up to 12 or fewer (it is not required that you use all 12 available columns).

Grid Classes



span 1 | span 1 | span 1 | span 1 | span 1 | span 1 | span 1 | span 1 | span 1 | span 1 | span 1 | span 1

span 4 | span 4 | span 4

span 4 | span 8

span 6 | span 6

span 12

The Bootstrap 4 grid system has five classes:

- **.col-** (extra small devices - screen width less than 576px)
- **.col-sm-** (small devices - screen width equal to or greater than 576px)
- **.col-md-** (medium devices - screen width equal to or greater than 768px)
- **.col-lg-** (large devices - screen width equal to or greater than 992px)
- **.col-xl-** (xlarge devices - screen width equal to or greater than 1200px)

The classes above can be combined to create more dynamic and flexible layouts.

Tip: Each class scales up, so if you wish to set the same widths for sm and md, you only need to specify sm.

The following is a basic structure of a Bootstrap 4 grid:

- Create a row (<div class="row">) inside container or container-fluid class.

1. Equal Columns: Bootstrap automatically handle the layout based on number of col class added

   - Instead of adding a number to each col, let bootstrap handle the layout, to create equal width columns:
     - two "col" elements = 50% width to each col.
     - three cols = 33.33% width to each col.
     - four cols = 25% width, etc.

```
<div class="row">
  <div class="col"></div>
  <div class="col"></div>
  <div class="col"></div>
</div>
```

2. Control the column width, but not controls how they should appear on different devices.
   - For example, if we have created 3 columns using **col-4** then It will display 3 columns for all the different devices .
   - **col-*** : **The star(*) represents a number**, which should add **up to 12** for each row.

```
<div class="row">
  <div class="col-*"></div>
  <div class="col-*"></div>
  <div class="col-*"></div>
</div>
```

Example

```
<div class="row">
  <div class="col-3">.col-3</div>
  <div class="col-3">.col-3</div>
  <div class="col-3">.col-3</div>
  <div class="col-3">.col-3</div>
</div>
```

3. **Responsive Columns:** Control the column width, and how they should appear on different devices

   - col-*-* : **first star (*) represents the responsiveness**: **sm, md, lg or xl**, while the **second star represents a number**, which should add **up to 12** for each row.

```
<div class="row">
  <div class="col-*-*"></div>
  <div class="col-*-*"></div>
</div>
```

- ✓ The following example shows how to create four equal-width columns starting at tablets and scaling to extra large desktops.

Example

On mobile phones or screens that are less than 576px wide, the columns will automatically stack on top of each other:

```
<div class="row">
  <div class="col-sm-3">.col-sm-3</div>
  <div class="col-sm-3">.col-sm-3</div>
  <div class="col-sm-3">.col-sm-3</div>
  <div class="col-sm-3">.col-sm-3</div>
</div>
```

Two Unequal Responsive Columns

The following example shows how to get two various-width columns starting at tablets and scaling to large extra desktops:

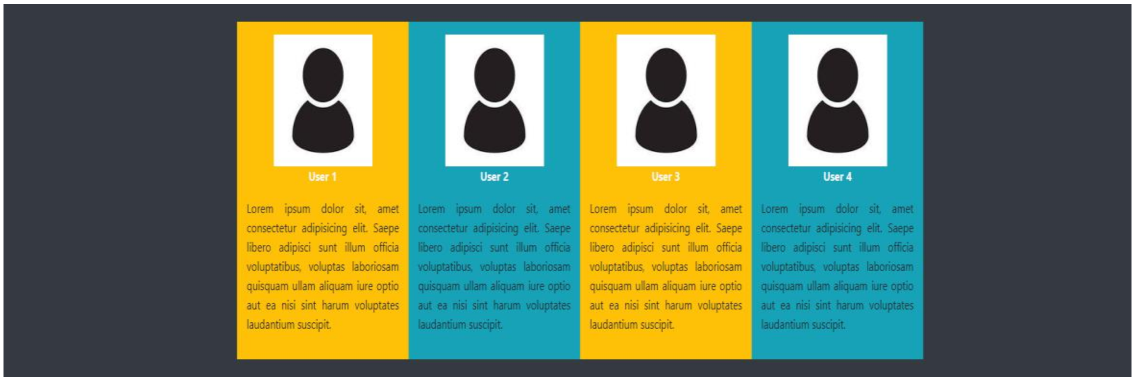
Example

```
<div class="row">
  <div class="col-sm-4">.col-sm-4</div>
  <div class="col-sm-8">.col-sm-8</div>
</div>
```

Example:

Write html/css script using bootstrap to perform following tasks. Use grid system and responsive effect must be observed.

a. **Set four columns in a row shown in image1 which contains image, title and description in each columns.**
b. **Columns must be observed vertically as shown in image2 from small screen size.(<576).**
c. **Design should be same as shown below using bootstrap classes only.**



User 1

Lorem ipsum dolor sit, amet consectetur adipisicing elit. Saepe libero adipisci sunt illum officia voluptatibus, voluptas laboriosam quisquam ullam aliquam iure optio aut ea nisi sint harum voluptates laudantium suscipit.

User 2

Lorem ipsum dolor sit, amet consectetur adipisicing elit. Saepe libero adipisci sunt illum officia voluptatibus, voluptas laboriosam quisquam ullam aliquam iure optio aut ea nisi sint harum voluptates laudantium suscipit.

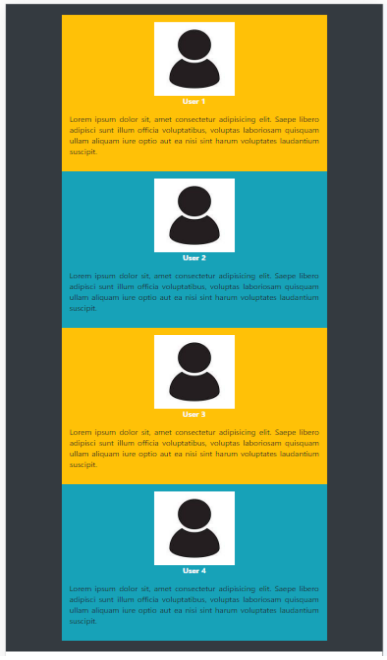
User 3

Lorem ipsum dolor sit, amet consectetur adipisicing elit. Saepe libero adipisci sunt illum officia voluptatibus, voluptas laboriosam quisquam ullam aliquam iure optio aut ea nisi sint harum voluptates laudantium suscipit.

User 4

Lorem ipsum dolor sit, amet consectetur adipisicing elit. Saepe libero adipisci sunt illum officia voluptatibus, voluptas laboriosam quisquam ullam aliquam iure optio aut ea nisi sint harum voluptates laudantium suscipit.

Image1



User 1

Lorem ipsum dolor sit, amet consectetur adipisicing elit. Saepe libero adipisci sunt illum officia voluptatibus, voluptas laboriosam quisquam ullam aliquam iure optio aut ea nisi sint harum voluptates laudantium suscipit.

User 2

Lorem ipsum dolor sit, amet consectetur adipisicing elit. Saepe libero adipisci sunt illum officia voluptatibus, voluptas laboriosam quisquam ullam aliquam iure optio aut ea nisi sint harum voluptates laudantium suscipit.

User 3

Lorem ipsum dolor sit, amet consectetur adipisicing elit. Saepe libero adipisci sunt illum officia voluptatibus, voluptas laboriosam quisquam ullam aliquam iure optio aut ea nisi sint harum voluptates laudantium suscipit.

User 4

Lorem ipsum dolor sit, amet consectetur adipisicing elit. Saepe libero adipisci sunt illum officia voluptatibus, voluptas laboriosam quisquam ullam aliquam iure optio aut ea nisi sint harum voluptates laudantium suscipit.

image2

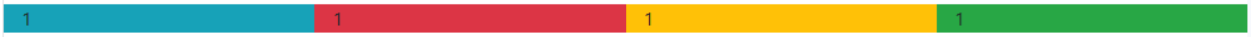
```
<div class="container-fluid bg-dark">
  <div class="container py-4">
    <div class="row">
      <div class="col-sm-3 bg-warning p-3">
        <img src="images.jfif" class="mx-auto d-block">
        <p class="font-weight-bold text-center text-light">User 1</p>
        <p class="text-justify">Lorem ipsum dolor sit, amet consectetur adipisicing elit. Saepe
libero adipisci sunt illum officia voluptatibus, voluptas laboriosam quisquam ullam aliquam
iure optio aut ea nisi sint harum voluptates laudantium suscipit.</p>
      </div>
      <div class=" col-sm-3  bg-info p-3">
        <img src="images.jfif" class="mx-auto d-block">
        <p class="font-weight-bold text-center text-light">User 2</p>
        <p class="text-justify">Lorem ipsum dolor sit, amet consectetur adipisicing elit. Saepe
libero adipisci sunt illum officia voluptatibus, voluptas laboriosam quisquam ullam aliquam
iure optio aut ea nisi sint harum voluptates laudantium suscipit.</p>
```

```
    </div>
    <div class=" col-sm-3 bg-warning p-3">
     <img src="images.jfif" class="mx-auto d-block">
     <p class="font-weight-bold text-center text-light">User 3</p>
     <p class="text-justify">Lorem ipsum dolor sit, amet consectetur adipisicing elit. Saepe
libero adipisci sunt illum officia voluptatibus, voluptas laboriosam quisquam ullam aliquam
iure optio aut ea nisi sint harum voluptates laudantium suscipit.</p>
    </div>
    <div class=" col-sm-3 bg-info p-3">
     <img src="images.jfif" class="mx-auto d-block">
     <p class="font-weight-bold text-center text-light">User 4</p>
     <p class="text-justify">Lorem ipsum dolor sit, amet consectetur adipisicing elit. Saepe
libero adipisci sunt illum officia voluptatibus, voluptas laboriosam quisquam ullam aliquam
iure optio aut ea nisi sint harum voluptates laudantium suscipit.</p>
    </div>
   </div>
  </div>
</div>
```

Example: To understand the concept of Responsive Columns for different screen sizes

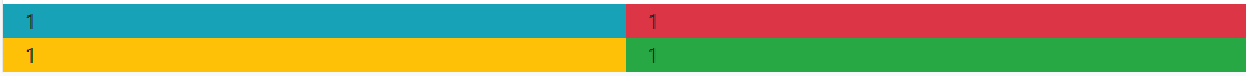
```
<div class="container-fluid">
<div class="row">
   <div class="col-lg-3 col-md-6 bg-info">1</div>
   <div class="col-lg-3 col-md-6 bg-danger">1</div>
   <div class="col-lg-3 col-md-6 bg-warning">1</div>
   <div class="col-lg-3 col-md-6 bg-success">1</div>
  </div>
</div>
```

Large screen size >=992px : 4columns



1 1 1 1

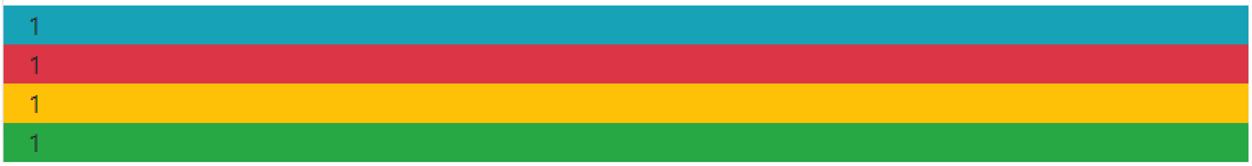
Medium screen size >= 768px but up to 991



1 1

1 1

For screen size less than 768 columns will stack on top of each other



1

1

1

1

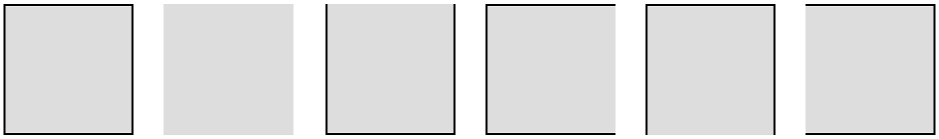
✓ For screen size >=992px four columns will be displayed.

✓ 768px to 991px 2 columns will be displayed.

✓ The columns will automatically stack on top of each other when the screen is less than 768px wide.

Borders

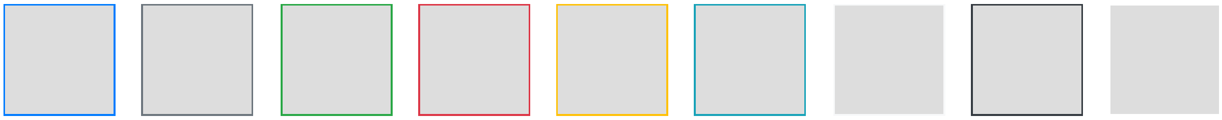
Use the border classes to add or remove borders from an element:



```
<head><style>
   .border {
   display: inline-block;
   width: 70px;
   height: 70px;
   margin: 6px;
  }
</style></head>
<body>
<span class="border"></span>
<span class="border border-0"></span>
<span class="border border-top-0"></span>
<span class="border border-right-0"></span>
<span class="border border-bottom-0"></span>
<span class="border border-left-0"></span>
</body>
```

Border Color

Add a color to the border with any of the contextual border color classes:



```
<head><style>
   .border {
   display: inline-block;
   width: 70px;
   height: 70px;
   margin: 6px;
  }
</style></head>
<body>
```

```
<span class="border border-primary"></span>
<span class="border border-secondary"></span>
<span class="border border-success"></span>
<span class="border border-danger"></span>
<span class="border border-warning"></span>
<span class="border border-info"></span>
<span class="border border-light"></span>
<span class="border border-dark"></span>
<span class="border border-white"></span>
</body>
```

Tables

- ✓ **Bootstrap** provides a series of classes that can be used to apply various styling to the tables such as changing the heading appearance, making the rows stripped, adding or removing borders, making rows hoverable, etc.
- ✓ Bootstrap also provides classes for making tables responsive.

Simple Table:

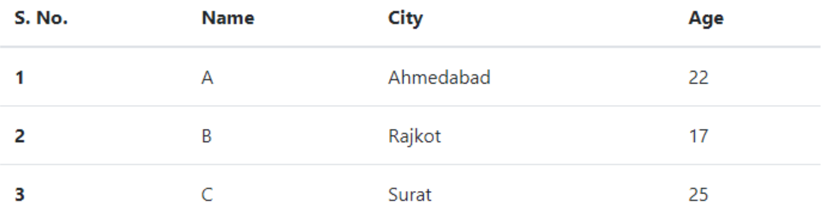
- The *.table* class is used to create a simple Bootstrap table.
- This class name is used with the <table> tag to create a table.

Syntax: <table class="table"> Table Contents... <table>

❖ A basic Bootstrap 4 table has a light padding and horizontal dividers.

The **.table** class adds basic styling to a table

```
<table class="table">
    <thead>
      <tr>
        <th>S. No.</th>
        <th>Name</th>
        <th>City</th>
        <th>Age</th>
      </tr>
    </thead>
    <tbody>
      <tr>
        <th scope="row">1</th>
        <td>A</td>
        <td>Ahmedabad</td>
        <td>22</td>
      </tr>
      <tr>
        <th scope="row">2</th>
        <td>B</td>
        <td>Rajkot</td>
        <td>17</td>
      </tr>
      <tr>
        <th scope="row">3</th>
        <td>C</td>
        <td>Surat</td>
        <td>25</td>
        </tr>
     </tbody>
  </table>
```

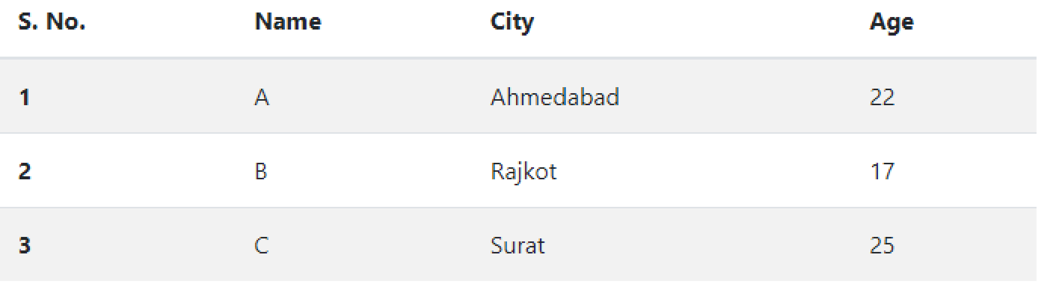


S. No.	Name	City	Age
1	A	Ahmedabad	22
2	B	Rajkot	17
3	C	Surat	25

❖ Striped Rows

The **.table-striped** class adds zebra-stripes to a table

```
<table class="table table-striped "> content </table>

Add  .table-striped  class in above example.
```

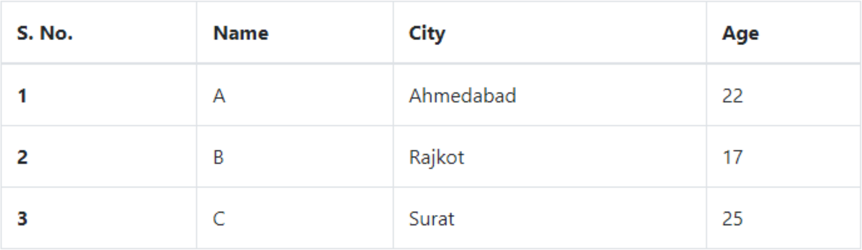


S. No.	Name	City	Age
1	A	Ahmedabad	22
2	B	Rajkot	17
3	C	Surat	25

❖ Bordered Table

The **.table-bordered** class adds borders on all sides of the table and cells

```
<table class="table table-bordered "> content </table>

Add  .table-bordered class in above example.
```



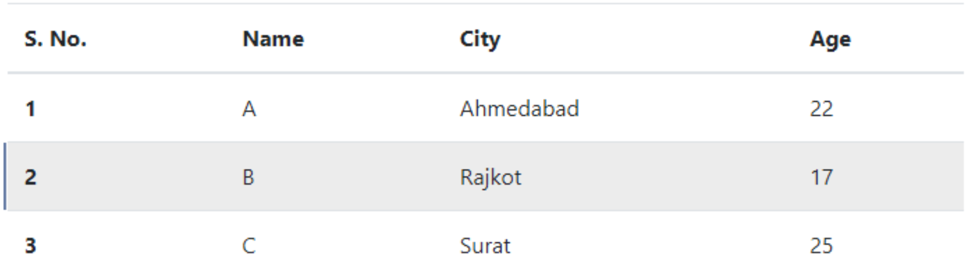
S. No.	Name	City	Age
1	A	Ahmedabad	22
2	B	Rajkot	17
3	C	Surat	25

❖ Hover Rows

The .table-hover class adds a hover effect (grey background color) on table rows

```
<table class="table table-hover"> content </table>
```

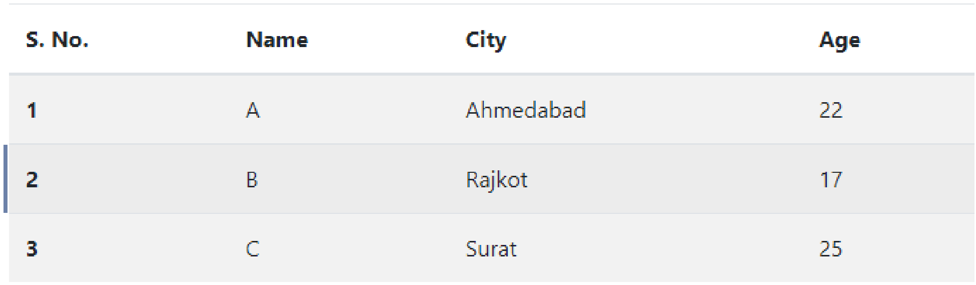
Add .table-hover class in above example.



S. No.	Name	City	Age
1	A	Ahmedabad	22
2	B	Rajkot	17
3	C	Surat	25

```
<table class="table table-hover table-striped"> content </table>
```

Add .table-hover and .table-striped class in above example.



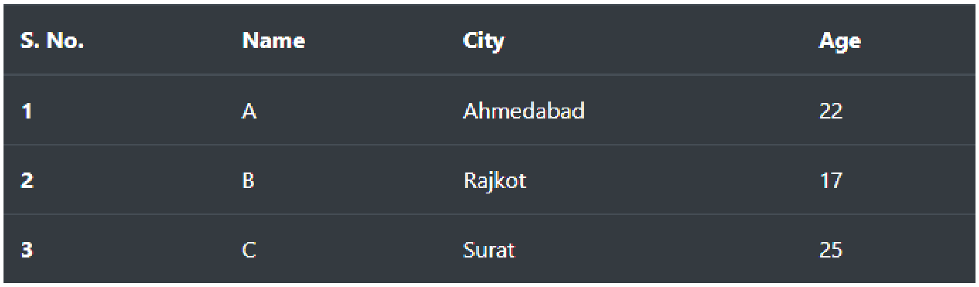
S. No.	Name	City	Age
1	A	Ahmedabad	22
2	B	Rajkot	17
3	C	Surat	25

❖ Black/Dark Table

The .table-dark class adds a black background to the table

```
<table class="table table-dark "> content </table>
```

Add .table-dark class in above example.



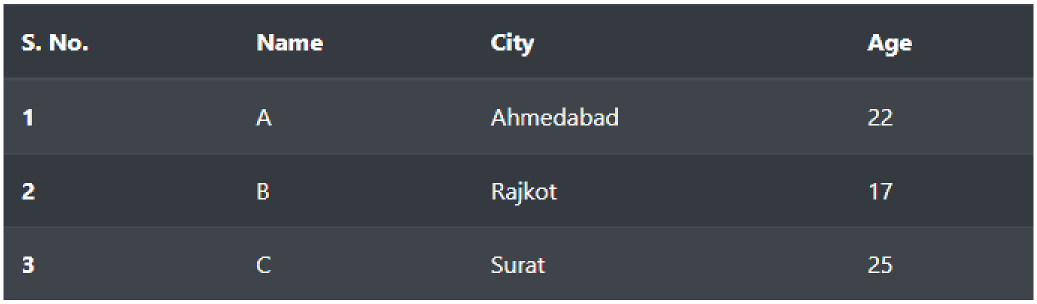
S. No.	Name	City	Age
1	A	Ahmedabad	22
2	B	Rajkot	17
3	C	Surat	25

❖ Dark Striped Table

Combine **.table-dark** and **.table-striped** to create a dark, striped table:

```
<table class="table table-dark table-striped"> content </table>
```

Add .table-hover and .table-striped class in above example.



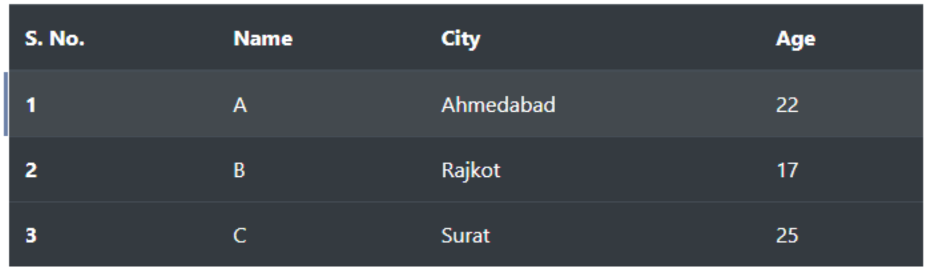
S. No.	Name	City	Age
1	A	Ahmedabad	22
2	B	Rajkot	17
3	C	Surat	25

❖ Hoverable Dark Table

The **.table-hover** class adds a hover effect (grey background color) on table rows:

```
<table class="table table-dark table-hover"> content </table>
```

Add .table-hover and .table-dark class in above example.



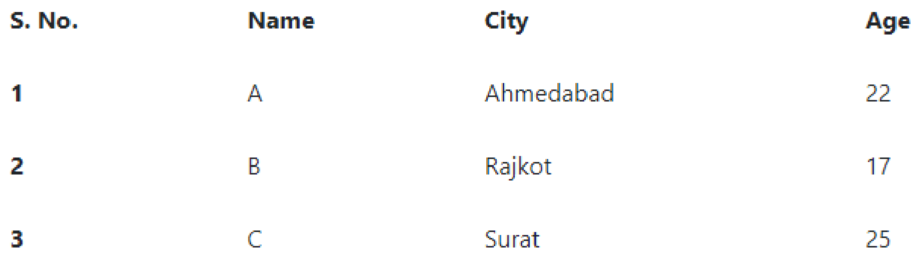
S. No.	Name	City	Age
1	A	Ahmedabad	22
2	B	Rajkot	17
3	C	Surat	25

❖ Borderless Table

The **.table-borderless** class removes borders from the table

<table class="table table-borderless "> content </table>

Add .table-borderless class in above example.



S. No.	Name	City	Age
1	A	Ahmedabad	22
2	B	Rajkot	17
3	C	Surat	25

❖ Contextual Classes

Contextual classes can be used to color the whole table (<table>), the table rows (<tr>) or table cells (<td>).

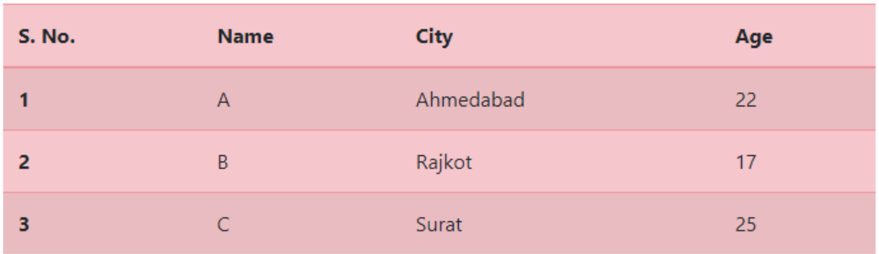
The contextual classes that can be used are:

.table-primary	Blue: Indicates an important action
.table-success	Green: Indicates a successful or positive action
.table-danger	Red: Indicates a dangerous or potentially negative action
.table-info	Light blue: Indicates a neutral informative change or action
.table-warning	Orange: Indicates a warning that might need attention
.table-active	Grey: Applies the hover color to the table row or table cell
.table-secondary	Grey: Indicates a slightly less important action
.table-light	Light grey table or table row background
.table-dark	Dark grey table or table row background

<table class="table table-danger table-striped"> content </table>

Add .table-danger and .table-striped class in above example.

Also, we can apply color to particular row or column by adding class to <tr> or <td> element.

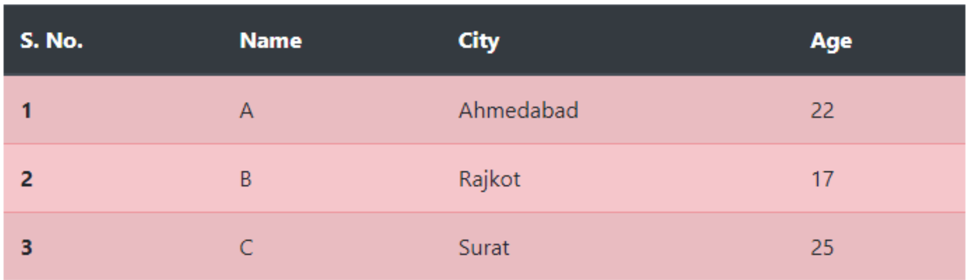


S. No.	Name	City	Age
1	A	Ahmedabad	22
2	B	Rajkot	17
3	C	Surat	25

❖ Table Head Colors

The .thead-dark class adds a black background to table headers, and the .thead-light class adds a grey background to table headers:

```
<table class="table table-danger table-striped">
    <thead class="thead-dark">
      <tr>
        <th>S. No.</th>
        <th>Name</th>
        <th>City</th>
        <th>Age</th>
      </tr>
    </thead>
    <tbody>
      <tr>
        <th scope="row">1</th>
        <td>A</td>
        <td>Ahmedabad</td>
        <td>22</td>
      </tr>
      <tr>
        <th scope="row">2</th>
        <td>B</td>
        <td>Rajkot</td>
        <td>17</td>
      </tr>
      <tr>
        <th scope="row">3</th>
        <td>C</td>
        <td>Surat</td>
        <td>25</td>
      </tr>
    </tbody>
  </table>
```



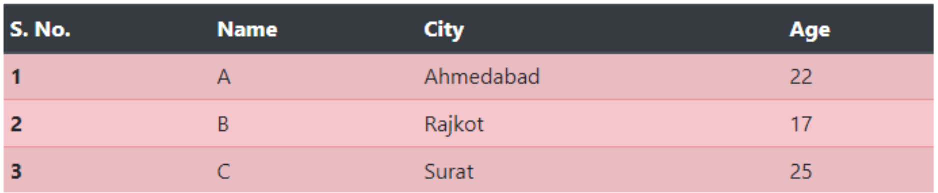
S. No.	Name	City	Age
1	A	Ahmedabad	22
2	B	Rajkot	17
3	C	Surat	25

❖ Small table

The .table-sm class makes the table smaller by cutting cell padding in half

<table class="table table-sm table-danger table-striped "> content </table>

Add .table-borderless class in above example.



S. No.	Name	City	Age
1	A	Ahmedabad	22
2	B	Rajkot	17
3	C	Surat	25

❖ Responsive Tables

- ✓ The .table-responsive class adds a scrollbar to the table when needed (when it is too big horizontally):
- ✓ You can also decide when the table should get a scrollbar, depending on screen width:

```
<div class="table-responsive">
  <table class="table">                                                        ...
  </table>
</div>
```

<table>
<tr><td><b>.table-responsive-sm</b></td><td><b>&lt; 576px</b></td></tr>
<tr><td><b>.table-responsive-md</b></td><td><b>&lt; 768px</b></td></tr>
<tr><td><b>.table-responsive-lg</b></td><td><b>&lt; 992px</b></td></tr>
<tr><td><b>.table-responsive-xl</b></td><td><b>&lt; 1200px</b></td></tr>
<tr><td colspan="2">If you don’t add <b>table-responsive</b> class then it will add horizontal scrollbar to whole web page, which is not correct way. To make a table responsive add <b>table-responsive</b> class before the table tag starts <b>(which makes only table responsive by adding horizontal scrollbar to table).</b></td></tr>
</table>

Images

- ✓ **Bootstrap** offers different classes for images to make their appearance better and also to make them responsive.
- ✓ Making an image responsive means it should scale according to its parent element.
- ✓ That is, the size of the image should not overflow its parent element and will grow and shrink according to the change in the size of its parent without losing its aspect ratio.
- ✓ The different classes available in Bootstrap for images are as explained below:

1. **Responsive Images:** The *.img-fluid* class is used within the <img> tag to create the responsive image. The responsive image is used to adjust the image automatically to the specified box.

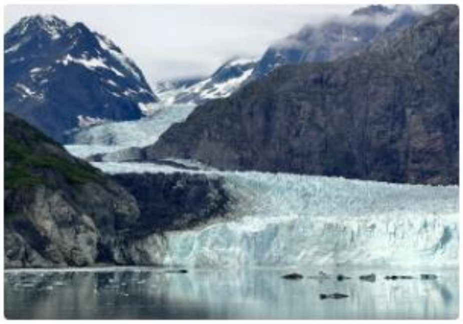
Syntax:

```
<img src="image_source" class="img-fluid" >
```

2. **Rounded Corners Image:** The *.rounded* class is used to create a rounded corner image. This class is used with <img> tag.

Syntax:

```
<img src="image_source" class="rounded" >
```



3. **Circle Image:** The *.rounded-circle* class is used to create the circle shape image.

Syntax:

```
<img src="image_source" class="rounded-circle" >
```

4. **Thumbnail Image:** The *.img-thumbnail* class is used to create a thumbnail (bordered) image.

Syntax:

```
<img src="image_source" class="img-thumbnail" >
```

5. **Aligning Image:** The *.float-left* and *.float-right* class is used to set the left and right alignment of the image.

Syntax:

```
<img src="image_source" class="float-left/float-right" >
```

float-right

6. **Centered Image:** The *.mx-auto* (margin:auto) and *.d-block* (display:block) classes are used to set the image into center.

Syntax:

```
<img src="image_source" class="mx-auto d-block" >
```

Alerts

- We often see certain **alerts** on some websites before or after completing an action.
- These alert messages are highlighted texts that are important to take into consideration while performing a process.
- Bootstrap allows showing these alert messages on the website using predefined classes.
- The ***.alert*** class followed by contextual classes are used to display the alert message on website.
- The alert classes are:
    1. *.alert-success*,
    2. *.alert-info*,
    3. *.alert-warning*,
    4. *.alert-danger*,
    5. *.alert-primary*,
    6. *.alert-secondary*,
    7. *.alert-light* and
    8. .alert-dark.

Syntax:

```
<div class="alert alert-success”> Contents... <div>
```

Closing Alerts:

- The *.alert-dismissible* class is used within *.container* class to close the alert message.
- Then use **class=”close”** and **data-dismiss=”alert”** to link a button element.

Syntax:

```
<div class="alert alert-success alert-dismissible">
   <button type="button" class="close" data-dismiss="alert">&times;</button>
   Alert message
<div>
```

Animated Alerts:

- The *.fade* and *.show* classes are used to add the fading effect of animation when closing the alert message.

Syntax:

```
<div class="alert alert-success alert-dismissible fade show">
   <button type="button" class="close" data-dismiss="alert">&times;</button>
   Alert message
<div>
```

Alert Links

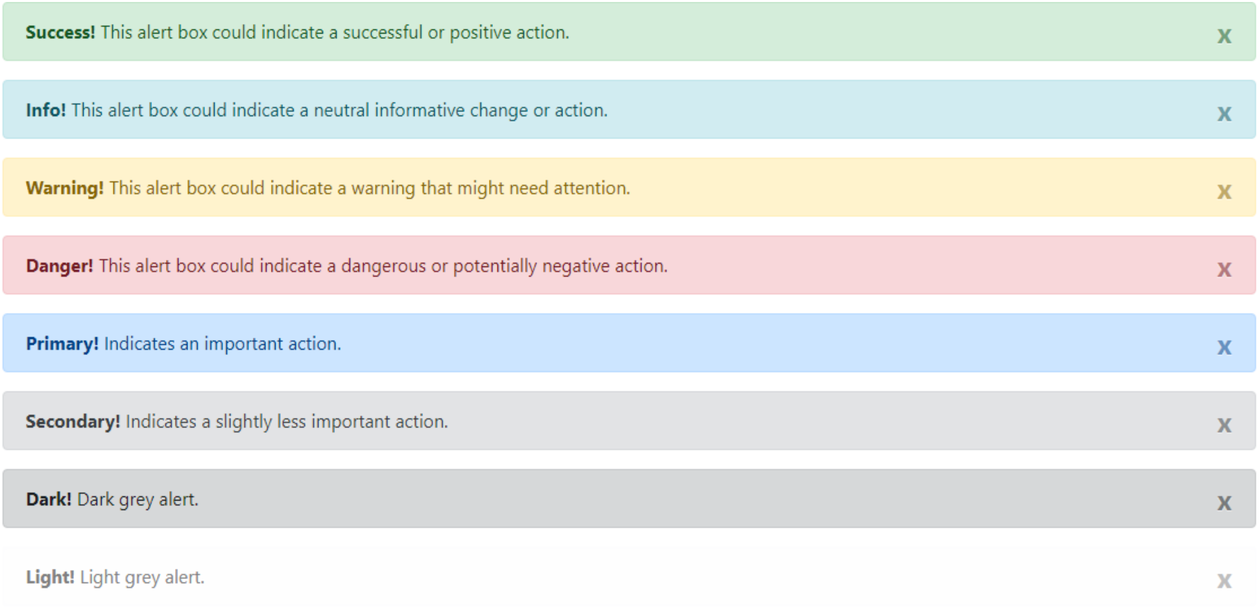
- Add the alert-link class to any links inside the alert box to create "matching colored links":

```
<div class="alert alert-success">
  <strong>Success!</strong> You should <a href="#" class="alert-link">read this message</a>.
</div>
```

Example:

```
<div class="container">
  <div class="alert alert-success alert-dismissible fade show">
    <strong>Success!</strong> This alert box could indicate a successful or positive action.
    <button type="button" class="close" data-dismiss="alert">x</button>
  </div>
  <div class="alert alert-info alert-dismissible fade show">
    <strong>Info!</strong> This alert box could indicate a neutral informative change or action.
    <button type="button" class="close" data-dismiss="alert">x</button>
  </div>
  <div class="alert alert-warning alert-dismissible fade show">
    <strong>Warning!</strong> This alert box could indicate a warning that might need attention.
    <button type="button" class="close" data-dismiss="alert">x</button>
  </div>
  <div class="alert alert-danger alert-dismissible fade show">
    <strong>Danger!</strong> This alert box could indicate a dangerous or potentially negative action.
    <button type="button" class="close" data-dismiss="alert">x</button>
  </div>
  <div class="alert alert-primary alert-dismissible fade show">
    <strong>Primary!</strong> Indicates an important action.
    <button type="button" class="close" data-dismiss="alert">x</button>
  </div>
  <div class="alert alert-secondary alert-dismissible">
    <strong>Secondary!</strong> Indicates a slightly less important action.
    <button type="button" class="close" data-dismiss="alert">x</button>
  </div>
  <div class="alert alert-dark alert-dismissible fade show">
    <strong>Dark!</strong> Dark grey alert.
    <button type="button" class="close" data-dismiss="alert">x</button>
  </div>
  <div class="alert alert-light alert-dismissible fade show">
    <strong>Light!</strong> Light grey alert.
    <button type="button" class="close" data-dismiss="alert">x</button>
  </div>
```

```
</div>
```



Success! This alert box could indicate a successful or positive action.

Info! This alert box could indicate a neutral informative change or action.

Warning! This alert box could indicate a warning that might need attention.

Danger! This alert box could indicate a dangerous or potentially negative action.

Primary! Indicates an important action.

Secondary! Indicates a slightly less important action.

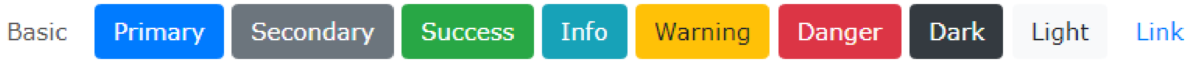
Dark! Dark grey alert.

Light! Light grey alert.

Buttons

- ✓ Bootstrap provides different classes that can be used with different tags, such as <button>, <a>, <input> to apply custom button styles.
- ✓ Bootstrap also provides classes that can be used for changing the state and size of buttons.
- ✓ Bootstrap contains many classes to set the style of the button element. The list of button classes are given below:

1. .btn
2. .btn-primary
3. .btn-secondary
4. .btn-success
5. .btn-info
6. .btn-warning
7. .btn-danger
8. .btn-dark
9. .btn-light
10. .btn-link

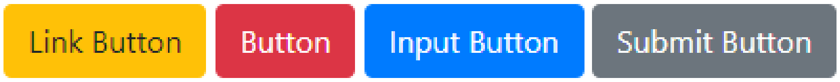


```
<button type="button" class="btn">Basic</button>
<button type="button" class="btn btn-primary">Primary</button>
<button type="button" class="btn btn-secondary">Secondary</button>
<button type="button" class="btn btn-success">Success</button>
<button type="button" class="btn btn-info">Info</button>
<button type="button" class="btn btn-warning">Warning</button>
<button type="button" class="btn btn-danger">Danger</button>
<button type="button" class="btn btn-dark">Dark</button>
<button type="button" class="btn btn-light">Light</button>
<button type="button" class="btn btn-link">Link</button>
```

The button classes can be used on <a>, <button>, or <input> elements:

Example:

```
<div class="container">
  <a href="#" class="btn btn-warning" role="button">Link Button</a>
  <button type="button" class="btn btn-danger">Button</button>
  <input type="button" class="btn btn-primary" value="Input Button">
  <input type="submit" class="btn btn-secondary" value="Submit Button">
</div>
```



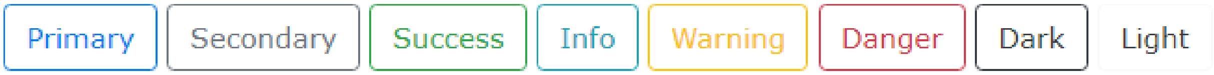
Why do we put a # in the href attribute of the link?

Since we do not have any page to link it to, and we do not want to get a "404" message, we put # as the link. In real life it should of course been a real URL to the "Search" page.

Button Outline

Bootstrap 4 provides eight outline/bordered buttons:

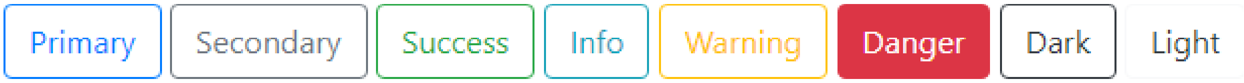
- ✓ **Primary**
- ✓ **Secondary**
- ✓ **Success**
- ✓ **Info**
- ✓ **Warning**
- ✓ **Danger**
- ✓ **Dark**
- ✓ **Light**



Example

```
<button type="button" class="btn btn-outline-primary">Primary</button>
<button type="button" class="btn btn-outline-secondary">Secondary</button>
<button type="button" class="btn btn-outline-success">Success</button>
<button type="button" class="btn btn-outline-info">Info</button>
<button type="button" class="btn btn-outline-warning">Warning</button>
<button type="button" class="btn btn-outline-danger">Danger</button>
<button type="button" class="btn btn-outline-dark">Dark</button>
<button type="button" class="btn btn-outline-light text-dark">Light</button>
```

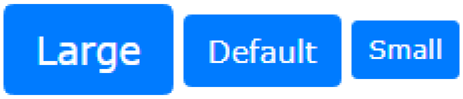
Hover effect on btn-danger



Button Sizes

Use the .btn-lg class for large buttons or .btn-sm class for small buttons:

- ✓ **Large**
- ✓ **Default**
- ✓ **Small**

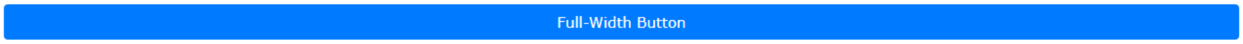


Example

```
<button type="button" class="btn btn-primary btn-lg">Large</button>
<button type="button" class="btn btn-primary">Default</button>
<button type="button" class="btn btn-primary btn-sm">Small</button>
```

Block Level Buttons

Add class .btn-block to create a block level button that spans the entire width of the parent element.



Example

```
<button type="button" class="btn btn-primary btn-block">Full-Width Button</button>
```

Active/Disabled Buttons

A button can be set to an active (appear pressed) or a disabled (unclickable) state:

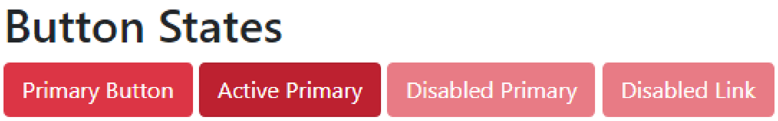
- ✓ The class .active makes a button appear pressed
- ✓ The disabled attribute makes a button unclickable.

Note that <a> elements do not support the disabled attribute and must therefore use the .disabled class to make it visually appear disabled.

Example

```
<div class="container">
```

```
  <h2>Button States</h2>
  <button type="button" class="btn btn-danger">Primary Button</button>
  <button type="button" class="btn btn-danger active">Active Primary</button>
  <button type="button" class="btn btn-danger" disabled>Disabled Primary</button>
/*disabled attribute for button*/
  <a href="#" class="btn btn-danger disabled">Disabled Link</a> /*disabled class for link*/
</div>
```



Button States

Spinners

The Spinners in Bootstrap 4 can be used to indicate the loading state in the web page. Bootstrap 4 also provides various classes for creating different styles of spinners.

The list of those various styles of Spinners:

1. **Bordered Spinner**
2. **Colored Spinners**
3. **Growing Spinners**
4. **Spinner Size**
5. **Buttons with Spinners**

1. Border Spinner:

A user can create bordered spinner with the help of **.spinner-border** class.

```
<div class="spinner-border"></div>
```

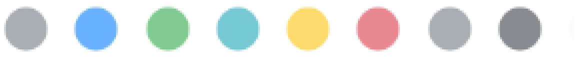
2. Colored Spinners:

Use any **text color utilites** to add a color to the spinner:

```
<div class="spinner-border text-muted"></div>
<div class="spinner-border text-primary"></div>
<div class="spinner-border text-success"></div>
<div class="spinner-border text-info"></div>
<div class="spinner-border text-warning"></div>
<div class="spinner-border text-danger"></div>
<div class="spinner-border text-secondary"></div>
<div class="spinner-border text-dark"></div>
<div class="spinner-border text-light"></div>
```

3. Growing Spinners:

Use the .spinner-grow class if you want the spinner/loader to grow instead of "spin":



```
<div class="spinner-grow text-muted"></div>
<div class="spinner-grow text-primary"></div>
<div class="spinner-grow text-success"></div>
<div class="spinner-grow text-info"></div>
<div class="spinner-grow text-warning"></div>
<div class="spinner-grow text-danger"></div>
<div class="spinner-grow text-secondary"></div>
<div class="spinner-grow text-dark"></div>
<div class="spinner-grow text-light"></div>
```

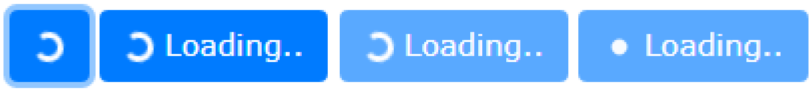
4. Spinner Size

Use .spinner-border-sm or .spinner-grow-sm to create a smaller spinner:

```
<div class="spinner-border spinner-border-sm"></div>
<div class="spinner-grow spinner-grow-sm"></div>
```

5. Spinner Buttons

You can also add "spinners" to a button.



Example

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

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

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

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

Progress Bars

What is meant by Progress Bars?

- Progress Bars can be used to display to the audience of the website that how far has the progress come in a certain process.
- Progress bars can be simply defined as a kind of bar that fills up in accordance to the percentage of progress made in completing or achieving a certain task. Therefore, it is given the name "progress bar."
- It is important because it shows the audience how much progress had been made in a task.
- There are various styles of Progress bars that can be applied to a web page, those styles are listed below:

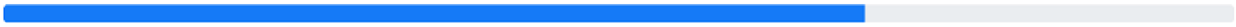
1. Basic Progress Bars
2. Different heights in Progress Bars
3. Labels in Progress Bars
4. Different Colors in Progress Bars
5. Striped Progress Bars
6. Animated Progress Bars
7. Stacked Progress Bars

1. Basic Progress Bars:

In order to create a basic progress bar, a user has to include a **.progress** class to a container element and also include the **.progress-bar** class to its child element.

The Example for Basic Progress Bars will be:

```
<div class="container">
<div class="progress">
<div class="progress-bar" style="width:70%"></div>
</div>
</div>
```



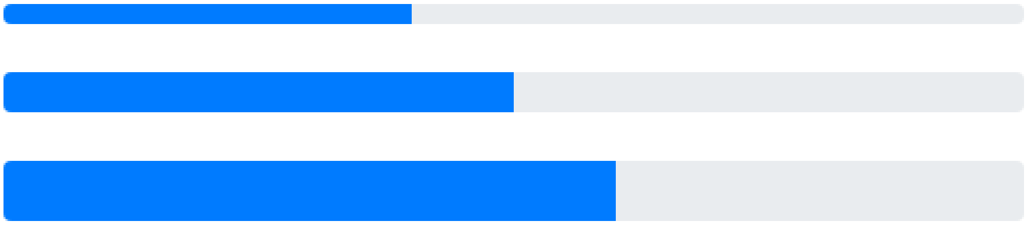
2. Different Heights of Progress Bars:

- The height of the progress bar is 16px by default.
- However, a user can utilize the CSS height property to modify the height.

- ✓ But at the same time, a user has to set the same height for the progress container and the progress bar.

The Example for Different Heights of Progress Bars is given below:

```
<div class="container">
<div class="progress" style="height:10px">
<div class="progress-bar" style="width:40%"></div>
</div>
<br>
<div class="progress" style="height:20px">
<div class="progress-bar" style="width:50%"></div>
</div>
<br>
<div class="progress" style="height:30px">
<div class="progress-bar" style="width:60%"></div>
</div>
</div>
```

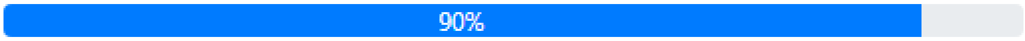


3. Labels in Progress Bars:

A user can also include some kind of text in the progress bars.

The Example for Labels in Progress Bars is given below:

```
<div class="container">
<div class="progress">
<div class="progress-bar" style="width:90%">90%</div>
</div>
</div>
```

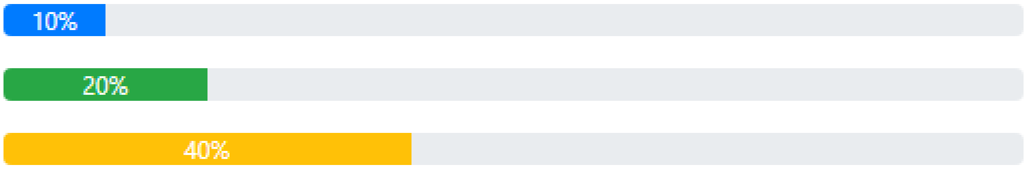


4. Different Colors in Progress Bars:

The color of the progress bar in Bootstrap 4 by default is the color "blue". However, with the help of using contextual classes, the color of the progress bars can be modified for different purposes.

The Example for Different Colors in Progress Bars is given below:

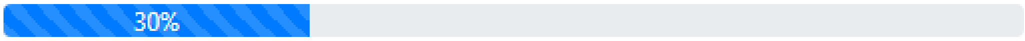
```
<div class="container">
 <!-- Blue -->
 <div class="progress mb-3">
 <div class="progress-bar" style="width:10%">10%</div>
 </div>
 <!-- Green -->
 <div class="progress mb-3">
 <div class="progress-bar bg-success" style="width:20%">20%</div>
 </div>
 <!-- Orange -->
 <div class="progress mb-3">
 <div class="progress-bar bg-warning" style="width:40%">40%</div>
 </div>
 </div>
```



5. Striped Progress Bars:

A user can also create Striped Progress Bars. The class **.progress-bar-striped** can be used to add stripes to the progress bars.

```
<div class="container">
<div class="progress">
<div class="progress-bar progress-bar-striped" style="width:30%">30%</div>
</div>
</div>
```

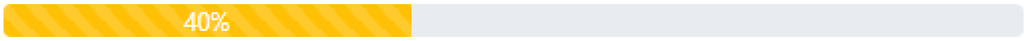


6. Animated Progress Bars:

The **.progress-bar-animated** class can be used animate the progress bar. The animation enhances the look of the website.

The Example for Animated Progress Bars is given below:

```
   <div class="container m-3">
        <div class="progress">
        <div class="progress-bar bg-warning progress-bar-striped progress-bar-animated"
style="width:40%">40%</div>
        </div>
        </div>
```

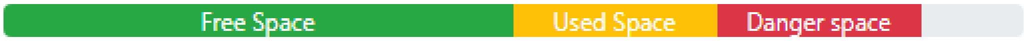


7. Stacked Progress Bars:

A user can also merge one or more progress bars.

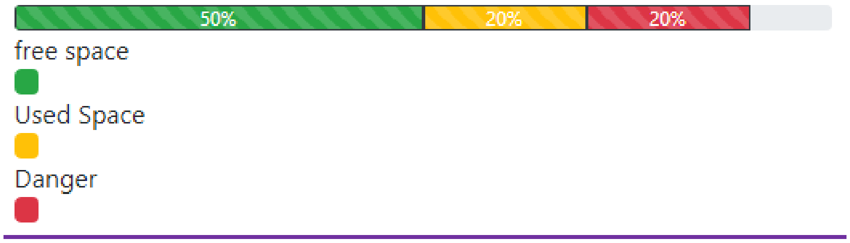
The Example for Stacked Progress Bars is given below:

```
<div class="container">
<h2>Stacked Progress Bars</h2>
<div class="progress">
<div class="progress-bar bg-success" style="width:50%">
Free Space
</div>
<div class="progress-bar bg-warning" style="width:20%">
Used Space
</div>
<div class="progress-bar bg-danger" style="width:20%">
Danger space
</div>
</div>
</div>
```



Example:

Write HTML code using bootstrap class to design a progressbar as shown below. Ass animation for the progressbar.



50% 20% 20%

free space

🟩

Used Space

🟨

Danger

🟥

```
    <div class="container">
        <div class="progress ">
          <div class="progress-bar bg-success progress-bar-striped progress-bar-animated border border-dark" style="width:50%">
          50%
          </div>
          <div class="progress-bar bg-warning progress-bar-striped progress-bar-animated border border-dark" style="width:20%">
          20%
          </div>
          <div class="progress-bar bg-danger progress-bar-striped progress-bar-animated border border-dark" style="width:20%">
          20%
          </div>
        </div>
        free space <span class="progress bg-white"><span class="progress-bar bg-success rounded" style="width:3%"></span></span>
        Used Space <span class="progress bg-white"><span class="progress-bar bg-warning rounded" style="width:3%"></span></span>
        Danger<span class="progress bg-white"><span class="progress-bar bg-danger rounded" style="width:3%"></span></span>
      </div>
```

Pagination

When there are many pages in a website and the user wants to add page numbers, then pagination in Bootstrap is used.

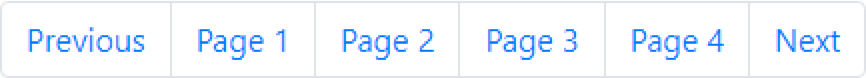
There are basically different types of Pagination that can be observed in Bootstrap 4, the list is given below:

1. Basic Pagination
2. Active State Pagination and Disabled State Pagination
3. Sizing in Pagination
4. Alignment in Pagination

Basic Pagination:

- ✓ In order to create a basic pagination, the user has to include **the .pagination** class to an <ul> element.
- ✓ After that, the user will have to add the **.page-item** to each <li> element and a **.page-link** class to each link<a> inside <li>.

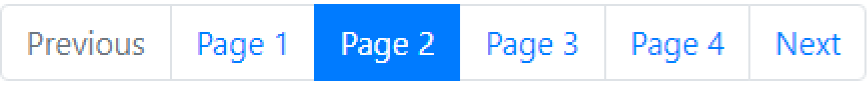
```
<div class="container">
  <ul class="pagination">
    <li class="page-item"><a class="page-link" href="#">Previous</a></li>
    <li class="page-item"><a class="page-link" href="#">Page 1</a></li>
    <li class="page-item"><a class="page-link" href="#">Page 2</a></li>
    <li class="page-item"><a class="page-link" href="#">Page 3</a></li>
    <li class="page-item"><a class="page-link" href="#">Page 4</a></li>
    <li class="page-item"><a class="page-link" href="#">Next</a></li>
  </ul>
 </div>
```



Active and disabled State Pagination:

- ✓ In order to make the active state pagination, the **.active** class can be used to highlight the current page.
- ✓ The disabled state is used for the purpose of creating an unclickable links. The class used in this case is **.disabled** class.

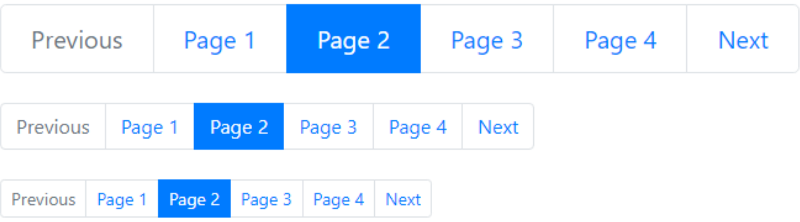
```
<div class="container m-4">
   <ul class="pagination">
     <li class="page-item disabled"><a class="page-link" href="#">Previous</a></li>
     <li class="page-item"><a class="page-link" href="#">Page 1</a></li>
     <li class="page-item active"><a class="page-link " href="#">Page 2</a></li>
     <li class="page-item"><a class="page-link" href="#">Page 3</a></li>
     <li class="page-item"><a class="page-link" href="#">Page 4</a></li>
     <li class="page-item"><a class="page-link" href="#">Next</a></li>
   </ul>
 </div>
```



Sizing in Pagination:

- ✓ The sizes of pagination can be changed. In order words, pagination blocks can also be sized to a larger or a smaller size.
- ✓ Add class .**pagination-lg** for larger blocks
- ✓ Add class **.pagination-sm** for smaller blocks

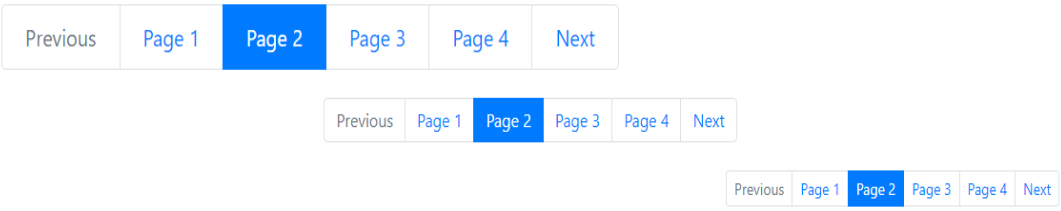
```
<!—large size -->
<ul class="pagination pagination-lg" style="margin:20px 0">
  <li class="page-item">...</li>
</ul>

<!—default size -->
<ul class="pagination" style="margin:20px 0">
  <li class="page-item">...</li>
</ul>

<!—Small size -->
<ul class="pagination pagination-sm" style="margin:20px 0">
  <li class="page-item">...</li>
</ul>
```



Alignment in Pagination:

- ✓ The alignment in pagination uses the utility classes to change the alignment of the pagination.
- ✓ Add class **justify-content-center** to align pagination in **center**
- ✓ Add class **justify-content-end** to align pagination in **right** side of the page

```
<!-- Default (left-aligned) -->
<ul class="pagination" style="margin:20px 0">
  <li class="page-item">...</li>
</ul>
<!-- Center-aligned -->
<ul class="pagination justify-content-center" style="margin:20px 0">
  <li class="page-item">...</li>
</ul>
<!-- Right-aligned -->
<ul class="pagination justify-content-end" style="margin:20px 0">
  <li class="page-item">...</li>
</ul>
```

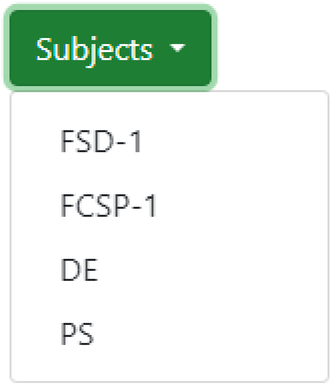


Dropdowns

- ✓ **Dropdowns** are one of the most important parts of an interactive website.
- ✓ A dropdown menu is the collection of menu items that allow users to choose a value from the list.
- ✓ The *.dropdown* class is used to design the drop-down menu.

Example:

```
<div class="container m-4">
  <div class="dropdown">
    <button type="button" class="btn btn-success dropdown-toggle" data-toggle="dropdown">
        Subjects
    </button>
    <div class="dropdown-menu">
        <a class="dropdown-item" href="#">FSD-1</a>
        <a class="dropdown-item" href="#">FCSP-1</a>
        <a class="dropdown-item" href="#">DE</a>
        <a class="dropdown-item" href="#">PS</a>
    </div>
  </div>
</div>
```

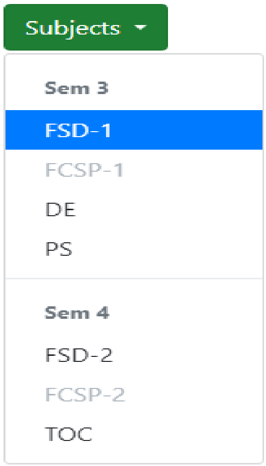


Dropdown Divider: The *.dropdown-divider* class is used to divide the dropdown menu list by using thin horizontal line.

Dropdown Header: The *.dropdown-header* class is used to add header section inside the dropdown list.

Disable and Active items: The ***.active*** class is used to add the highlight the list items. The ***.disabled*** class is used to disable the list of items.

```
<div class="container m-4">
 <div class="dropdown">
  <button type="button" class="btn btn-success dropdown-toggle" data-toggle="dropdown">
    Subjects
  </button>
  <div class="dropdown-menu">
   <strong class="dropdown-header">Sem 3</strong>
    <a class="dropdown-item active" href="#">FSD-1</a>
    <a class="dropdown-item disabled" href="#">FCSP-1</a>
    <a class="dropdown-item" href="#">DE</a>
    <a class="dropdown-item " href="#">PS</a>
    <div class="dropdown-divider"></div>
    <strong class="dropdown-header">Sem 4</strong>
    <a class="dropdown-item" href="#">FSD-2</a>
    <a class="dropdown-item disabled" href="#">FCSP-2</a>
    <a class="dropdown-item" href="#">TOC</a>
  </div>
 </div>
</div>
```

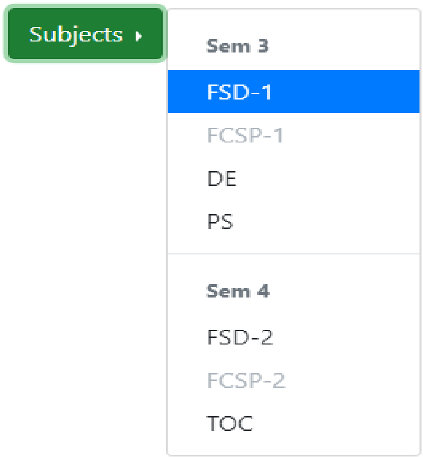


Dropdown Position:

The *.dropright* and *.dropleft* classes are used to set the position of dropdown list in left and right side.

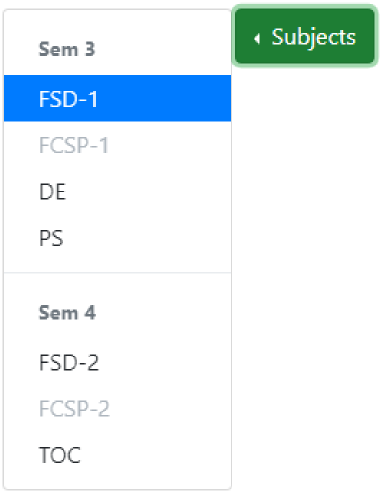
Add .dropright class as shown below in above example.

```
<div class="dropdown dropright">
```



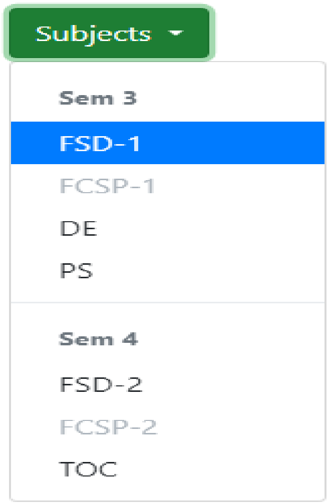
Add .dropleft class as shown below in above example.

```
<div class="dropdown dropleft">
```



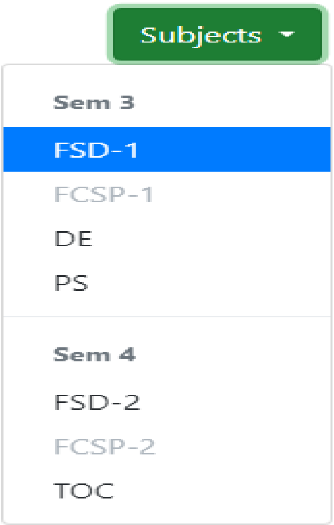
Dropdown Menu Right

Default dropdown menu is displayed as shown below.



To right-align the dropdown menu, add the .dropdown-menu-right class to the element with .dropdown-menu:

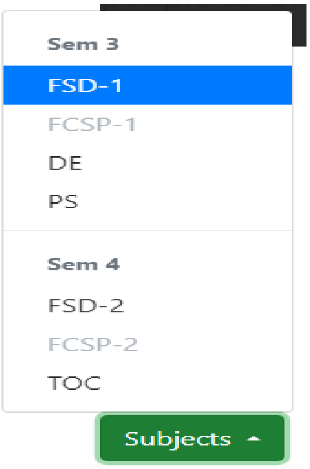
```
<div class="dropdown-menu dropdown-menu-right">
```



Dropup

If you want the dropdown menu to expand upwards instead of downwards, change the <div> element with class="dropdown" to "dropup":

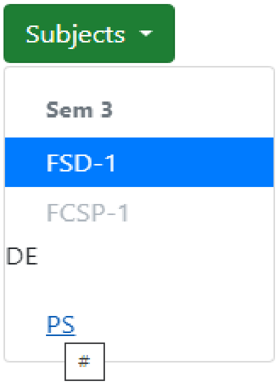
```
<div class="dropup">
```



Dropdown Text

The **.dropdown-item-text** class is used to add plain text to a dropdown item, or used on links for default link styling.

```
 <div class="dropdown">
  <button type="button" class="btn btn-success dropdown-toggle" data-toggle="dropdown">
    Subjects
  </button>
  <div class="dropdown-menu">
   <strong class="dropdown-header">Sem 3</strong>
    <a class="dropdown-item active" href="#">FSD-1</a>
    <a class="dropdown-item disabled" href="#">FCSP-1</a>
    <p class="dropdown-item-text">DE</p>
    <a class="dropdown-item-text" href="#">PS</a>
  </div>
</div>
```



Collapse

- Collapsibles are useful when you want to hide and show large amount of content.
- Collapse component is used to show or hide the content by using *.collapse* class.
- The content can be collapsed by adding *data-toggle="collapse"* attribute anchor or button element. The id of these elements references to the id of the content to collapse the data.

```
<button data-toggle="collapse" data-target="#demo">Collapsible</button>
      <div id="demo" class="collapse">
            Lorem ipsum dolor text....
       </div>
```

Example Explained

- The .collapse class indicates a collapsible element (a <div> in our example); this is the content that will be shown or hidden with a click of a button.
- To control (show/hide) the collapsible content, add the **data-toggle= "collapse"** attribute to an <a> or a <button> element. Then add the **data-target="#id"** attribute to connect the button with the collapsible content **(<div id="demo">**).

Collapse using Link

- You can collapse the content with <a> tag by using href value of the ID of the content to collapse.

Note: For <a> elements, you can use the href attribute instead of the data-target attribute:

```
<a href="#demo" data-toggle="collapse">Collapsible</a>
<div id="demo" class="collapse">
Lorem ipsum dolor text....
</div>
```

By default, the collapsible content is hidden. However, you can add the .**show** class to show the content by default:

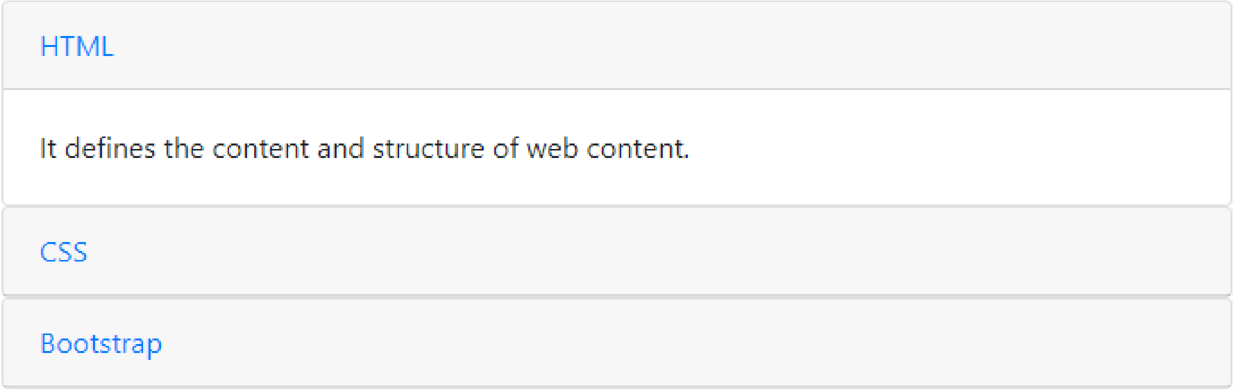
```
<div id="demo" class="collapse show">
Lorem ipsum dolor text....
</div>
```

Accordion

- ✓ Accordion is a graphical element consisting of a vertically stacked list of items.
- ✓ This can be clicked to reveal or hide content associated with them.
- ✓ In this digital era, every website contains an accordion at least one of their pages if they have a FAQ section.
- ✓ With the use of accordion you can make your content display more interactive.
- ✓ The use of the data-parent attribute to makes sure that all collapsible elements under the specified parent will be closed when one of the collapsible items is display.
- ✓ The following example shows a simple accordion by extending the card component.

Example:

```
<div id="accordion">

  <div class="card">
    <div class="card-header">
      <a class="card-link" data-toggle="collapse" href="#collapseOne">
        HTML
      </a>
    </div>
    <div id="collapseOne" class="collapse show" data-parent="#accordion">
      <div class="card-body">
        It defines the content and structure of web content.
      </div>
    </div>
  </div>

  <div class="card">
    <div class="card-header">
      <a class="collapsed card-link" data-toggle="collapse" href="#collapseTwo">
        CSS
      </a>
    </div>
    <div id="collapseTwo" class="collapse" data-parent="#accordion">
      <div class="card-body">
        Cascading Style Sheets is a style sheet language used for specifying the presentation and
styling of a document written in a markup language such as HTML or XML.
      </div>
    </div>
  </div>
  <div class="card">
    <div class="card-header">
      <a class="collapsed card-link" data-toggle="collapse" href="#collapseThree">
        Bootstrap
      </a>
    </div>
    <div id="collapseThree" class="collapse" data-parent="#accordion">
      <div class="card-body">
        Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development.
      </div>
    </div>
  </div>
</div>
```



HTML

It defines the content and structure of web content.

CSS

Bootstrap