# Bootstrap 5 :

Bootstrap is a powerful front-end framework for faster and easier web development. It includes HTML and CSS based design templates for creating common user interface components like forms, buttons, navigations, dropdowns, alerts, modals, tabs, accordions, carousels, tooltips, and so on.

Bootstrap gives you ability to create flexible and responsive web layouts with much less efforts.

## What You Can Do with Bootstrap

There are lot more things you can do with Bootstrap.

- You can easily create responsive websites.
- You can quickly create multi-column layout with pre-defined classes.
- You can quickly create different types of form layouts.
- You can quickly create different variation of navigation bar.
- You can easily create dynamic tabs to manage large amount of content.
- You can easily create tooltips and popovers to show hint text.
- You can easily create carousel or image slider to showcase your content.
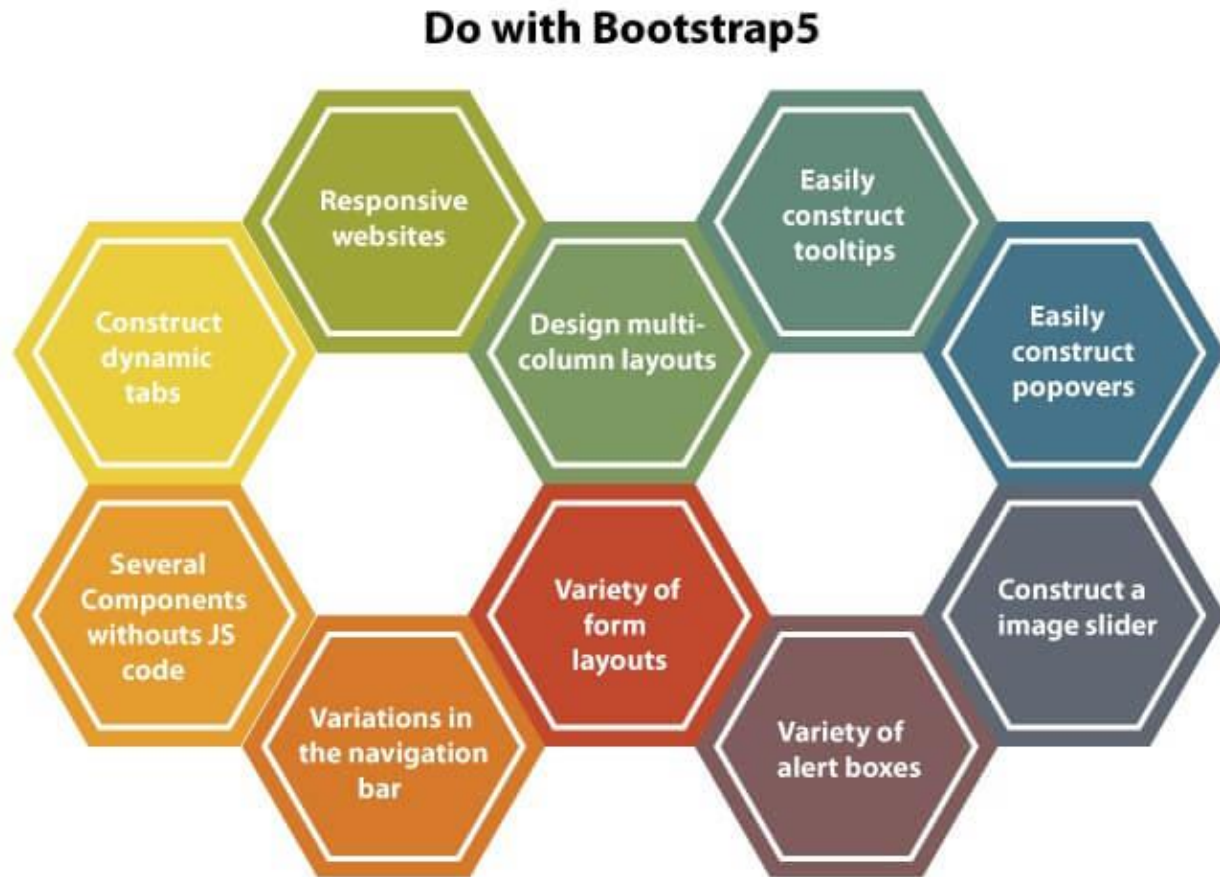- You can quickly create different types of alert boxes.

## Advantages of Using Bootstrap

If you have had some experience with any front-end framework, you might be wondering what makes Bootstrap so special. Here are some advantages why one should opt for Bootstrap framework:

- **Save lots of time** — You can save lots of time and efforts using the Bootstrap predefined design templates and classes and concentrate on other development work.

- **Responsive features** — Using Bootstrap you can easily create responsive websites that appear more appropriately on different devices and screen resolutions without any change in markup.

- **Consistent design** — All Bootstrap components share the same design templates and styles through a central library, so the design and layout of your web pages will be consistent.

- **Easy to use** — Bootstrap is very easy to use. Anybody with the basic working knowledge of HTML, CSS and JavaScript can start development with Bootstrap.

- **Compatible with browsers** — Bootstrap is created with modern web browsers in mind and it is compatible with all modern browsers such as Chrome, Firefox, Safari, Internet Explorer, etc.

- **Open Source** — And the best part is, it is completely free to download and use.

**Note:** Bootstrap is responsive by default with a mobile first approach. Bootstrap 5 is the latest and most stable version of the Bootstrap. Bootstrap 5 is supported in all major modern browsers such Google Chrome, Firefox, Safari, Internet Explorer 10 and above, etc.

## Do with Bootstrap5



# Creating Containers with Bootstrap

Containers are the most basic layout element in Bootstrap and are required when using the grid system. Containers are basically used to wrap content with some padding. They are also used to align the content horizontally center on the page in case of fixed width layout.

Bootstrap provides three different types containers:

- `.container`, which has a max-width at each responsive breakpoint.
- `.container-fluid`, which has 100% width at all breakpoints.
- `.container-{breakpoint}`, which has 100% width until the specified breakpoint.

# Creating Responsive Fixed-width Containers

You can simply use the `.container` class to create a responsive, fixed-width container. The width of the container will change at different breakpoints or screen sizes,

**Code:**

```
<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8">

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

<title>Bootstrap Responsive Fixed-width Containers</title>

<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css" rel="stylesheet">

<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.bundle.min.js"></script>

</head>

<body>

   <div class="container">

      <h1>This is a heading</h1>

      <p>This is a paragraph of text.</p>

         <p class="mt-3 text-info"><strong>Tip:</strong> Open the output in a new blank tab (Click the arrow next to "Show Output" button) and resize the browser window to understand how the Bootstrap responsive grid system works.</p>

   </div>

</body>

</html>
```

# Creating Fluid Containers

You can use the `.container-fluid` class to create a full width container. The width of the fluid container will always be 100% irrespective of the devices or screen sizes.

**Code:**

```
<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8">

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

<title>Bootstrap Fluid Containers</title>

<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css" rel="stylesheet">

<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.bundle.min.js"></script>

</head>

<body>

   <div class="container-fluid">

      <h1>This is a heading</h1>

      <p>This is a paragraph of text.</p>

   </div>

</body>

</html>
```

# Specify Responsive Breakpoints for Containers

Since Bootstrap v4.4, you can also create containers that is 100% wide until the specified breakpoint is reached, after which max-width for each of the higher breakpoints will be applied.

For example, `.container-xl` will be 100% wide until the xl breakpoint is reached (i.e., viewport width ≥ 1200px), after which max-width for xl breakpoint is applied, which is 1140px.

**Code:**

```
<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8">

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

<title>Bootstrap Containers with Responsive Breakpoints</title>

<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css" rel="stylesheet">

<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.bundle.min.js"></script>

</head>

<body>

   <div class="container-sm border py-3 my-3">100% wide until screen size less than 576px</div>

   <div class="container-md border py-3 my-3">100% wide until screen size less than 768px</div>

   <div class="container-lg border py-3 my-3">100% wide until screen size less than 992px</div>

   <div class="container-xl border py-3 my-3">100% wide until screen size less than 1200px</div>

   <p class="m-3"><strong>Note:</strong> The classes ".border", ".py-3", and ".my-3" are <a href="/twitter-bootstrap-tutorial/bootstrap-helper-classes.php" target="_top">utility classes</a> to add borders, paddings, and margins to the element, respectively.</p>

   <p class="m-3"><strong>Tip:</strong> Open the output in a new blank tab (Click the arrow next to "Show Output" button) and resize the browser window to understand how the Bootstrap responsive grid system works.</p>

</body>

</html>
```

# Adding Background and Borders to Containers

By default, container doesn't have any `background-color` or `border` or `text color`. But if you need you can apply your own styles, or simply use the Bootstrap background-color and border and text color utility classes to add background-color or border on them

**Color:**

The classes for text colors are: **.text-muted, .text-primary, .text-success, .text-info, .text-warning, .text-danger, .text-secondary, .text-white, .text-dark, .text-body** (default body color/often black) and **.text-light**:,

**Background Color:**

The classes for background colors are: **.bg-primary, .bg-success, .bg-info, .bg-warning, .bg-danger, .bg-secondary, .bg-dark and .bg-light.**

All color, bg color and text color is implemented in following example:

**Code:**

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
<title>Set Background and Borders to Bootstrap Containers</title>
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css" rel="stylesheet">
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.bundle.min.js"></script>
</head>
```

```
<body>

    <!-- Container with dark background and white text color -->

    <div class="container bg-dark text-white border py-3 my-3">

        <h1>This is a heading</h1>

        <p>This is a paragraph of text.</p>

    </div>


    <!-- Container with light background -->

    <div class="container bg-light py-3 my-3">

        <h1>This is a heading</h1>

        <p>This is a paragraph of text.</p>

    </div>


    <!-- Container with border -->

    <div class="container border py-3 my-3">

        <h1>This is a heading</h1>

        <p>This is a paragraph of text.</p>

    </div>

    <p class="m-3"><strong>Note:</strong> The classes ".py-3", and ".my-3" are <a href="/twitter-
bootstrap-tutorial/bootstrap-helper-classes.php" target="_top">spacing utility classes</a> to add
padding, and margin of 1rem to the top and bottom sides of the element, respectively.</p>

</body>

</html>
```

# Bootstrap Grid System

The Bootstrap 5 grid system is designed with flexbox and supports up to 12 columns across the page. If we don't want to use all 12 columns separately, you can combine them to make wider columns.

The grid system is responsive, and the columns will re-arrange themselves automatically based on screen size. It is not necessary to use all 12 available columns. Make sure the total is less than or equal to 12.

We can utilize Bootstrap's default grid classes to easily create layouts for various devices like mobile phones, tablets, laptops, and desktops.

For example, the .col-* classes can construct grid columns for especially small devices such as mobile phones in portrait mode, and the .col-sm-* classes for mobile phones in landscape mode.

**Grid options**

Bootstrap's grid system can adapt across all six default breakpoints, and

any breakpoints you customize. The six default grid tiers are as follow:

1. Extra small (xs)
2. Small (sm)
3. Medium (md)
4. Large (lg)
5. Extra large (xl)
6. Extra extra large (xxl)

The following table shows the format of the bootstrap 5 grid systems.

| Col1 | Col1 | Col1 | Col1 | Col1 | Col1 | Col1 | Col1 | Col1 | Col1 | Col1 | Col1 |
|------|------|------|------|------|------|------|------|------|------|------|------|
| Col6 | | | | | | Col6 | | | | | |
| Col3 | | | Col3 | | | Col3 | | | Col3 | | |
| Col4 | | | | Col4 | | | | Col4 | | | |
| Col4 | | | | Col8 | | | | | | | |

# Creating Two Column Layouts

The following example will show you how to create two column layouts for medium, large and extra large devices like tables, laptops and desktops etc. However, on mobile phones (screen width less than 768px), the columns will automatically become horizontal (2 rows, 1 column).

**CODE:**

```html
<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8">

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

<title>Bootstrap Two Column Grid Layouts for Tablets and Desktops</title>

<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css" rel="stylesheet">

<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.bundle.min.js"></script>

<style>

   /* Some custom styles to beautify this example */

   .demo-content{

      padding: 15px;

      font-size: 18px;

      background: #dbdfe5;

      margin-bottom: 15px;

   }

   .demo-content.bg-alt{

      background: #abb1b8;

   }

</style>

</head>

<body>

   <h2 class="text-center mt-3">Bootstrap Responsive Layout</h2>

         <div class="text-center my-3">Open the output in a new blank tab (Click the arrow next to
"Show Output" button) and resize the browser window to understand how the Bootstrap responsive
grid system works.</div>

   <div class="container">

      <!--Row with two equal columns-->

      <div class="row">
```

```html
      <div class="col-md-6">

        <div class="demo-content">.col-md-6</div>

      </div>

      <div class="col-md-6">

        <div class="demo-content bg-alt">.col-md-6</div>

      </div>

    </div>


    <!--Row with two columns divided in 1:2 ratio-->

    <div class="row">

      <div class="col-md-4">

        <div class="demo-content">.col-md-4</div>

      </div>

      <div class="col-md-8">

        <div class="demo-content bg-alt">.col-md-8</div>

      </div>

    </div>


    <!--Row with two columns divided in 1:3 ratio-->

    <div class="row">

      <div class="col-md-3">

        <div class="demo-content">.col-md-3</div>

      </div>

      <div class="col-md-9">

        <div class="demo-content bg-alt">.col-md-9</div>

      </div>

    </div>

  </div>

</body>
```

```
</html>
```

# Creating a Simple Table with Bootstrap

You can create tables with basic styling that has horizontal dividers and small cell padding (8px by default), by just adding the Bootstrap's class `.table` to the `<table>` element.

**CODE:**

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
<title>Bootstrap Simple Table</title>
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css" rel="stylesheet">
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.bundle.min.js"></script>
</head>
<body>
<div class="m-4">
    <table class="table">
        <thead>
            <tr>
                <th>#</th>
                <th>First Name</th>
                <th>Last Name</th>
                <th>Email</th>
            </tr>
        </thead>
        <tbody>
            <tr>
```

```
            <td>1</td>

            <td>Clark</td>

            <td>Kent</td>

            <td>clarkkent@mail.com</td>

        </tr>

        <tr>

            <td>2</td>

            <td>Peter</td>

            <td>Parker</td>

            <td>peterparker@mail.com</td>

        </tr>

        <tr>

            <td>3</td>

            <td>John</td>

            <td>Carter</td>

            <td>johncarter@mail.com</td>

        </tr>

    </tbody>

  </table>

</div>

</body>

</html>
```

A basic Bootstrap 5 table has a light padding and horizontal dividers.The

.table class adds basic styling to a table:

1. The .**table-striped** class adds zebra-stripes to a table
2. The .**table-bordered** class adds borders on all sides of the table and cells
3. The .**table-hover** class adds a hover effect (grey background color) on

table rows
4.  The **.table-dark** class adds a black background to the table
5.  Combine **.table-dark** and **.table-striped** to create a dark, striped table:
6.  The **.table-borderless** class removes borders from the table

**CODE:**

```html
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
<title>Bootstrap Dark Table</title>
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css"
rel="stylesheet">
<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.bundle.min.js"></script>
</head>
<body>
<div class="m-4">
    <table class="table table-dark">
        <thead>
            <tr>
                <th>#</th>
                <th>First Name</th>
                <th>Last Name</th>
                <th>Email</th>
            </tr>
        </thead>
        <tbody>
            <tr>
                <td>1</td>
                <td>Clark</td>
                <td>Kent</td>
                <td>clarkkent@mail.com</td>
            </tr>
            <tr>
                <td>2</td>
                <td>Peter</td>
                <td>Parker</td>
                <td>peterparker@mail.com</td>
```

```
          </tr>
          <tr>
            <td>3</td>
            <td>John</td>
            <td>Carter</td>
            <td>johncarter@mail.com</td>
          </tr>
        </tbody>
      </table>
    </div>
    </body>
    </html>
```

# Bootstrap Images

Documentation and examples for opting images into responsive behavior

(so they never become larger than their parent elements) and add

lightweight styles to them—all via classes. Images in Bootstrap are made

responsive with .img-fluid. This applies max-width: 100%; and height: auto;

to the image so that it scales with the parent element.

```
<img src="..." class="img-fluid" alt="...">
<img src="..." class="img-thumbnail" alt="...">
<img src="..." class="rounded float-start" alt="...">
<img src="..." class="rounded float-end" alt="...">
<img src="..." class="rounded mx-auto d-block" alt="...">
```

**CODE:**

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
<title>Bootstrap Image Styling</title>
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css" rel="stylesheet">
```

```
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.bundle.min.js"></script>
<style>
        /* Custom style to add spacing between images */
  img{
    margin-right: 20px;
  }
</style>
</head>
<body>
<div class="m-4">
  <img src="p.jpg" class="rounded" alt="Rounded Image">
  <img src="p.jpg" class="rounded-circle" alt="Circular Image">
  <img src="p.jpg" class="img-thumbnail" alt="Thumbnail Image">
</div>
</body>
</html>
```

# Bootstrap Alerts

Bootstrap 5 provides an easy way to create predefined alert messages:

Alerts are created with the .**alert** class, followed by one of the contextual

classes .**alert-success**, .**alert-info**, .**alert-warning**, .**alert-danger**, .**alert-primary**, .**alert-secondary**, .**alert-light** or .**alert-dark:**

**CODE:**

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
```

```
<title>Bootstrap Common Alert Messages</title>

<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css"
rel="stylesheet">

<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.bundle.min.js"></script>

</head>

<body>

<div class="m-4">

    <!-- Success Alert -->

    <div class="alert alert-success alert-dismissible fade show">

        <strong>Success!</strong> Your message has been sent successfully.

        <button type="button" class="btn-close" data-bs-dismiss="alert"></button>

    </div>


    <!-- Error Alert -->

    <div class="alert alert-danger alert-dismissible fade show">

        <strong>Error!</strong> A problem has been occurred while submitting your data.

        <button type="button" class="btn-close" data-bs-dismiss="alert"></button>

    </div>


    <!-- Warning Alert -->

    <div class="alert alert-warning alert-dismissible fade show">

        <strong>Warning!</strong> There was a problem with your network connection.

        <button type="button" class="btn-close" data-bs-dismiss="alert"></button>

    </div>


    <!-- Info Alert -->

    <div class="alert alert-info alert-dismissible fade show">
```

&lt;strong&gt;Info!&lt;/strong&gt; Please read the comments carefully.

&lt;button type="button" class="btn-close" data-bs-dismiss="alert"&gt;&lt;/button&gt;

&lt;/div&gt;

&lt;/div&gt;

&lt;/body&gt;

&lt;/html&gt;

# Bootstrap Spinners

Bootstrap introduces the new spinner component that you can use to show the loading state in your applications. Spinners are typically loading icons and they're built only with HTML and CSS.

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>
```

**CODE:**

&lt;!DOCTYPE html&gt;

&lt;html lang="en"&gt;

&lt;head&gt;

&lt;meta charset="utf-8"&gt;

&lt;meta name="viewport" content="width=device-width, initial-scale=1"&gt;

&lt;title&gt;Bootstrap Border Spinner&lt;/title&gt;

&lt;link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css" rel="stylesheet"&gt;

```
</head>

<body>

<div class="m-4">

    <div class="spinner-border text-warning">

        <span class="visually-hidden">Loading...</span>

    </div>

</div>

</body>

</html>
```

# Bootstrap Progress Bars

A progress bar can be used to show how far a user is in a process. To create a default progress bar, add a .progress class to a container element and add the .progress-bar class to its child element. Use the CSS width property to set the width of the progress bar:

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

**CODE:**

```
<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8">

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

<title>Bootstrap Progress Bar</title>

<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css"
rel="stylesheet">
```

```html
<style>

    /* Adding space at the bottom of progress bar */

    .progress{

        margin-bottom: 1rem;

    }

</style>

</head>

<body>

<div class="m-4">

    <div class="progress">

        <div class="progress-bar" style="width: 25%"></div>

    </div>

    <div class="progress">

        <div class="progress-bar" style="width: 50%"></div>

    </div>

    <div class="progress">

        <div class="progress-bar" style="width: 75%"></div>

    </div>

    <div class="progress">

        <div class="progress-bar" style="width: 100%"></div>

    </div>

</div>

</body>

</html>
```

# Bootstrap Pagination

Pagination is the process of organizing content by dividing it into separate pages.

If you have a web site with lots of pages, you may wish to add some sort of pagination to each page. To create a basic pagination, add the .pagination class to an <ul> element. Then add the .page-item to each <li> element and a .page-link class to each link inside <li>

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

**CODE:**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8">

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

<title>Bootstrap Pagination</title>

<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css" rel="stylesheet">

</head>

<body>

<div class="m-4">

   <nav>

     <ul class="pagination">

        <li class="page-item"><a href="#" class="page-link">Previous</a></li>

        <li class="page-item"><a href="#" class="page-link">1</a></li>

        <li class="page-item"><a href="#" class="page-link">2</a></li>

        <li class="page-item"><a href="#" class="page-link">3</a></li>

```
<li class="page-item"><a href="#" class="page-link">4</a></li>

<li class="page-item"><a href="#" class="page-link">5</a></li>

<li class="page-item"><a href="#" class="page-link">Next</a></li>

    </ul>

  </nav>

</div>

</body>

</html>
```

# Bootstrap Cards

Bootstrap card is a flexible and extensible content container. It includes options for headers and footers, a wide variety of content, contextual background colors, and powerful display options.  The outer wrapper require the base class. card, whereas content can be placed inside the. card-body element

**CODE:**
```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
<title>Bootstrap Card</title>
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css" rel="stylesheet">

</head>
<body>
<div class="m-4">
    <div class="card" style="width: 300px;">
        <img src="/examples/images/sample.svg" class="card-img-top" alt="Sample Image">
        <div class="card-body text-center">
            <h5 class="card-title">Alice Liddel</h5>
```

```
        <p class="card-text">Alice is a freelance web designer and developer based in
London. She is specialized in HTML5, CSS3, JavaScript, Bootstrap, etc.</p>
        <a href="#" class="btn btn-primary">View Profile</a>
      </div>
    </div>
  </div>
  </body>
  </html>
```