CET-223

Web Technologies

Experiment # 12

Experiment Title

Advanced Bootstrap: Customization and JavaScript Components

Assessment of CLO(s): 03

Performed on _____

Student Name:			
Roll No.		Group	
Semester		Session	

Total (Max)	Performance (03)	Viva (03)	File (04)	Total (10)
Marks Obtained				
Remarks (if any)				

Experiment evaluated by

Instructor's Name	Engr. Bilal Iqbal		
Date		Signature	

Objective:

To explore and implement Bootstrap, a widely-used front-end framework, in order to rapidly build responsive, mobile-first websites by utilizing its pre-built components, such as navigation bars, buttons, forms, and grids, which minimize the need for custom CSS and JavaScript.
.

Bootstrap II

Bootstrap Typography:

Bootstrap 5 styles HTML headings (<h1> to <h6>) with a bolder font-weight and a responsive font-size. We can use .h1 to .h6 classes on other elements to make them behave as headings.

```
<div class="container">
        <p class="h1">h1 Bootstrap heading</p>
        <p class="h2">h2 Bootstrap heading</p>
        <p class="h3">h3 Bootstrap heading</p>
        <p class="h4">h4 Bootstrap heading</p>
        <p class="h5">h5 Bootstrap heading</p>
        <p class="h6">h6 Bootstrap heading</p>
</div>
```

Headings

h1 Bootstrap heading

h2 Bootstrap heading

h3 Bootstrap heading

h4 Bootstrap heading

h5 Bootstrap heading

h6 Bootstrap heading

Display Headings

Display headings are used to stand out more than normal headings (larger font-size and lighter font-weight), and there are six classes to choose from: .display-1 to .display-6

```
<div class="container">
    <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>
    <h1 class="display-5">Display 5</h1>
    <h1 class="display-6">Display 6</h1>
</div>
```

Display 1
Display 2
Display 3
Display 4
Display 5
Display 6

More Typography Classes

Class	Description
.lead	Makes a paragraph stand out
.text-start	Indicates left-aligned text
.text-break	Prevents long text from breaking layout
.text-center	Indicates center-aligned text
.text-decoration-none	Removes the underline from a link
.text-end	Indicates right-aligned text
.text-nowrap	Indicates no wrap text
.text-lowercase	Indicates lowercased text
.text-uppercase	Indicates uppercased text
.text-capitalize	Indicates capitalized text

Text Colors
Bootstrap 5 has some contextual classes that can be used to provide "meaning through colors".

```
<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).

Background Colors

```
<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>
```
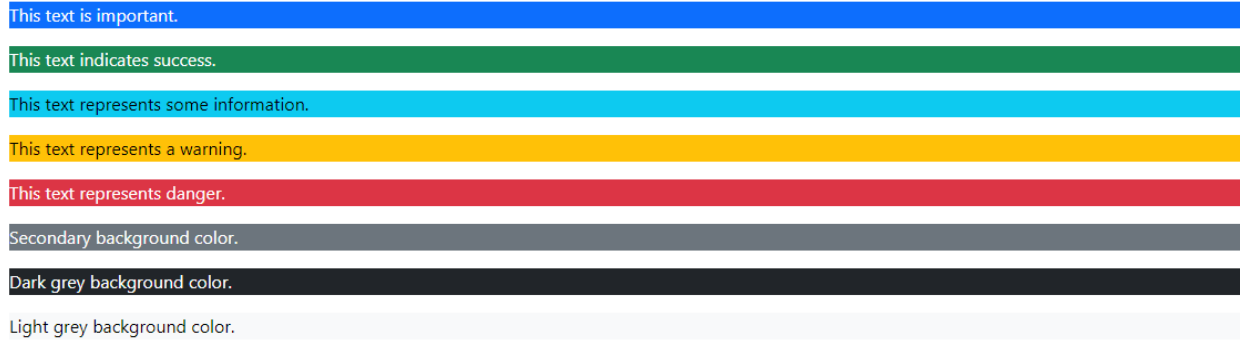
Backgrounds

Note: The `.bg-color` classes above does not work well with text, or atleast then you have to specify a proper `.text-color` class to get the right text color for each background. However, you can use the `.text-bg-color` classes and Bootstrap will automatically handle the appropriate text color for each background col.

```
<div class="container mt-3">
     <h2>Background Color with Contrasting Text Color</h2>
     <p class="text-bg-primary">This text is important.</p>
     <p class="text-bg-success">This text indicates success.</p>
     <p class="text-bg-info">This text represents some information.</p>
     <p class="text-bg-warning">This text represents a warning.</p>
     <p class="text-bg-danger">This text represents danger.</p>
     <p class="text-bg-secondary">Secondary background color.</p>
     <p class="text-bg-dark">Dark grey background color.</p>
     <p class="text-bg-light">Light grey background color.</p>
   </div>
```

Background Color with Contrasting Text Color

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.

Bootstrap 5 Buttons:
Bootstrap 5 provides different styles of buttons

```html
<div class="container">
    <button type="button" class="btn">Base class</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-danger">Danger</button>
    <button type="button" class="btn btn-warning">Warning</button>
    <button type="button" class="btn btn-info">Info</button>
    <button type="button" class="btn btn-light">Light</button>
    <button type="button" class="btn btn-dark">Dark</button>
    <button type="button" class="btn btn-link">Link</button>
</div>
```

Base class Primary Secondary Success Danger Warning Info Light Dark Link

Button Sizes

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

```html
<div class="container mt-3">
    <h2>Button Sizes</h2>
    <button type="button" class="btn btn-primary btn-lg">Large</button>
    <button type="button" class="btn btn-primary btn-md">Default</button>
    <button type="button" class="btn btn-primary btn-sm">Small</button>
</div>
```

Button Sizes

Large Default Small

Button Outline
Bootstrap 5 also provides eight outline/bordered buttons.

```html
<div class="container mt-3">
  <h2>Button Outline</h2>
  <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>
</div>
```
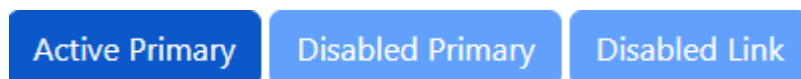
Button Outline

| Primary | Secondary | Success | Info | Warning | Danger | Dark | Light |

Active/Disabled Buttons
The class `.active` makes a button appear pressed, and the `disabled` attribute makes a button unclickable.

```html
<button type="button" class="btn btn-primary active">Active
Primary</button>
<button type="button" class="btn btn-primary" disabled>Disabled
Primary</button>
<a href="#" class="btn btn-primary disabled">Disabled Link</a>
```
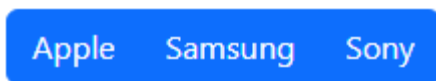
| Active Primary | Disabled Primary | Disabled Link |

Button Groups
Bootstrap 5 allows you to group a series of buttons together (on a single line) in a button group:

```
<div class="container mt-5">
     <div class="btn-group">
         <button type="button" class="btn btn-primary">Apple</button>
         <button type="button" class="btn btn-primary">Samsung</button>
         <button type="button" class="btn btn-primary">Sony</button>
      </div>
   </div>
```


Vertical Button Groups

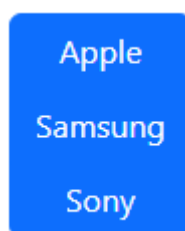Use the class `.btn-group-vertical` to create a vertical button group

```
<div class="btn-group-vertical">
  <button type="button" class="btn btn-primary">Apple</button>
  <button type="button" class="btn btn-primary">Samsung</button>
  <button type="button" class="btn btn-primary">Sony</button>
</div>
```

Bootstrap Cards

Bootstrap's cards provide a flexible and extensible content container with multiple variants and options.

```html
<div class="container mt-5">
    <div class="card" style="width: 18rem;">
        <img src="images/1.png" class="card-img-top" alt="...">
        <div class="card-body">
          <h5 class="card-title">Card title</h5>
          <p class="card-text">Some quick example text to build on the
card title and make up the bulk of the card's content.</p>
          <a href="#" class="btn btn-primary">Go somewhere</a>
        </div>
    </div>
</div>
```
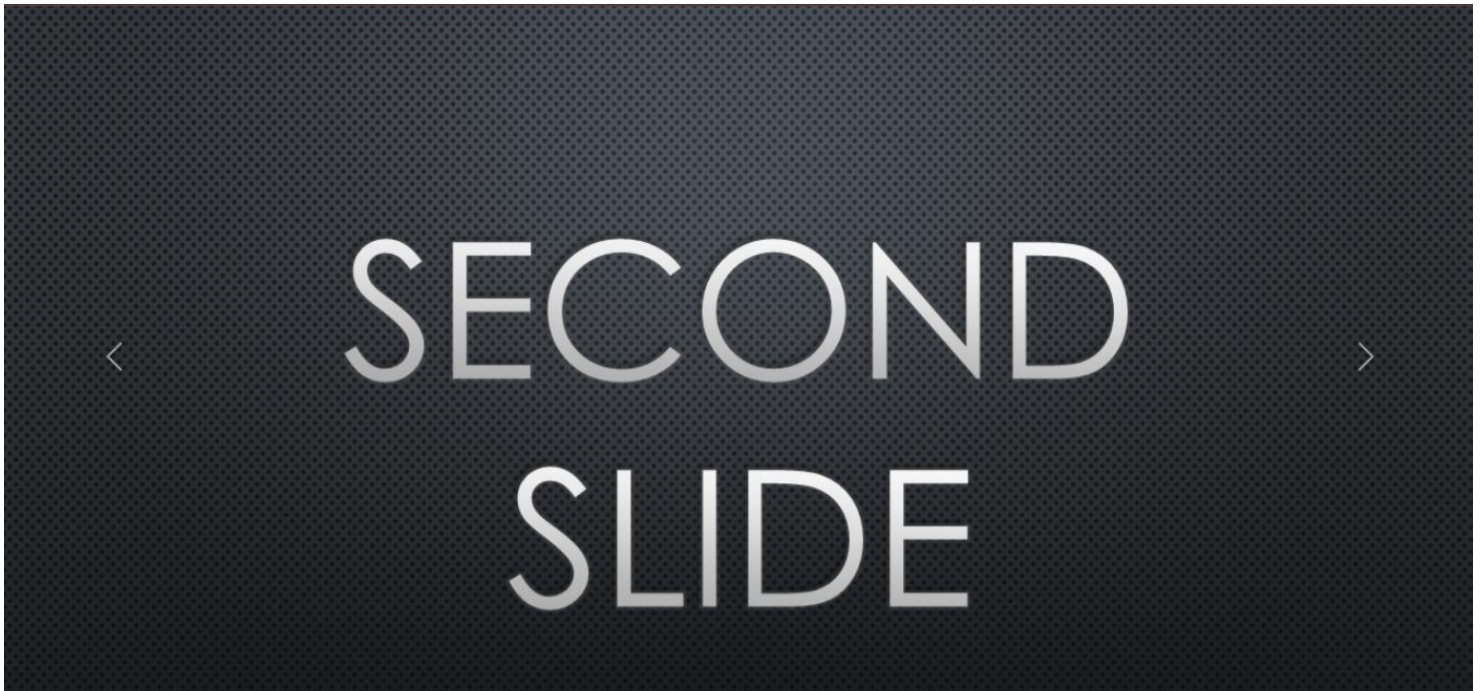

Bootstrap Navbar

A navigation bar is a navigation header that is placed at the top of the page. With Bootstrap, a navigation bar can extend or collapse, depending on the screen size. A standard navigation bar is created with the `.navbar` class, followed by a responsive collapsing class

```html
<nav class="navbar navbar-expand-lg bg-body-tertiary">
      <div class="container-fluid">
        <a class="navbar-brand" href="#">Navbar</a>
        <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-
target="#navbarSupportedContent" aria-controls="navbarSupportedContent" aria-
expanded="false" aria-label="Toggle navigation">
          <span class="navbar-toggler-icon"></span>
        </button>
        <div class="collapse navbar-collapse" id="navbarSupportedContent">
          <ul class="navbar-nav me-auto mb-2 mb-lg-0">
            <li class="nav-item">
              <a class="nav-link active" aria-current="page" href="#">Home</a>
            </li>
            <li class="nav-item">
              <a class="nav-link" href="#">Link</a>
            </li>
            <li class="nav-item dropdown">
              <a class="nav-link dropdown-toggle" href="#" role="button" data-bs-
toggle="dropdown" aria-expanded="false">
                Dropdown
              </a>
              <ul class="dropdown-menu">
                <li><a class="dropdown-item" href="#">Action</a></li>
                <li><a class="dropdown-item" href="#">Another action</a></li>
                <li><hr class="dropdown-divider"></li>
                <li><a class="dropdown-item" href="#">Something else here</a></li>
              </ul>
            </li>
            <li class="nav-item">
              <a class="nav-link disabled" aria-disabled="true">Disabled</a>
            </li>
          </ul>
          <form class="d-flex" role="search">
            <input class="form-control me-2" type="search" placeholder="Search" aria-
label="Search">
            <button class="btn btn-outline-success" type="submit">Search</button>
          </form>
        </div>
      </div>
    </nav>
```

Navbar Home Link Dropdown ▾ Disabled   Search   Search

Bootstrap 5 Carousel
The Carousel is a slideshow for cycling

```html
<div id="carouselExample" class="carousel slide">
    <div class="carousel-inner">
      <div class="carousel-item active">
        <img src="images/SECOND SLIDE.png" class="d-block w-100" alt="...">
      </div>
      <div class="carousel-item "></div>
        <img src="images/FIRST SLIDE.png" class="d-block w-100" alt="...">
      </div>
    </div>
    <button class="carousel-control-prev" type="button" data-bs-
target="#carouselExample" data-bs-slide="prev">
      <span class="carousel-control-prev-icon" aria-hidden="true"></span>
      <span class="visually-hidden">Previous</span>
    </button>
    <button class="carousel-control-next" type="button" data-bs-
target="#carouselExample" data-bs-slide="next">
      <span class="carousel-control-next-icon" aria-hidden="true"></span>
      <span class="visually-hidden">Next</span>
    </button>
  </div>
```
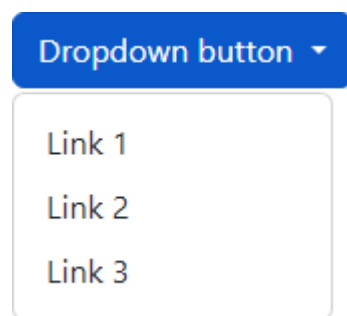
Bootstrap 5 Dropdowns

A dropdown menu is a toggleable menu that allows the user to choose one value from a predefined list

```html
<div class="dropdown">
  <button type="button" class="btn btn-primary dropdown-toggle" data-bs-
toggle="dropdown">
    Dropdown button
  </button>
  <ul class="dropdown-menu">
    <li><a class="dropdown-item" href="#">Link 1</a></li>
    <li><a class="dropdown-item" href="#">Link 2</a></li>
    <li><a class="dropdown-item" href="#">Link 3</a></li>
  </ul>
</div>
```

Dropdown button ▾

Link 1

Link 2

Link 3

Lab Task:

Create a portfolio webpage for an electronic projects showcase, featuring a minimum of 6 projects. Use Bootstrap components such as a carousel for project images, cards for project details, a navigation bar, and a footer. Ensure the portfolio is responsive and mobile-first, allowing easy viewing on different devices. Each project should include:

1. A carousel for images/videos of the project.
2. Cards displaying the project title, description, and key features.
3. A contact section with a form for inquiries.
4. A footer with social media links or project repository links.