1. Implement the following task using CSS BootStrap. [Hint]: Use the following to implement task 1
   - Container
   - Table
   - Table-borderless
   - Table-dark
   - Table-primary
   - Table-success
   - Table-danger
   - Table-info
   - Table-warning
   - Text-right
   - Table-secondary
   - Table-light
   - Text-dark

Task Number 1		
Sr.No.	Batch No.	WE Year
1	Batch 11	2015
2	Batch 12	2016
3	Batch 13	2016
4	Batch 14	2017
5	Batch 15	2018
6	Batch 16	2019
7	Batch 17	2020
8	Batch 18	2021
9	Batch 19	2022
10	Batch 20	2023

2. The following are some of the elements of form validation in BootStrap. With the help of following you can implement.
   - Input-group
   - Input-group-prepend
   - Input-group-append
   - Form-controls
   - Icons library (open iconic master library for BS). The library can be downloaded from the link as:
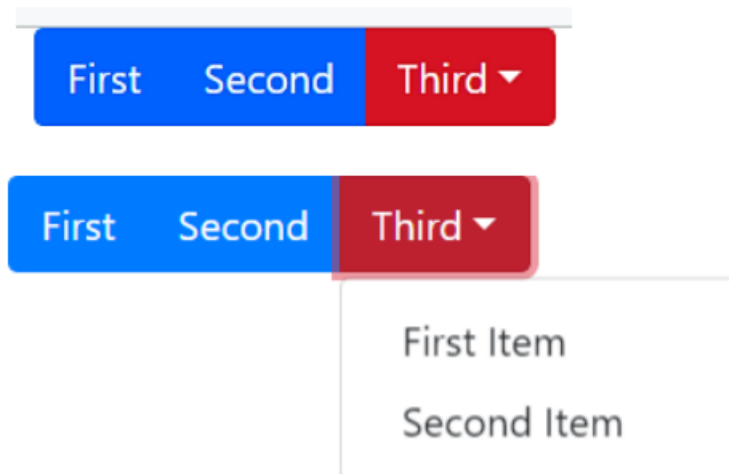   https://useiconic.com/open/

SE-301L Web Engineering Lab
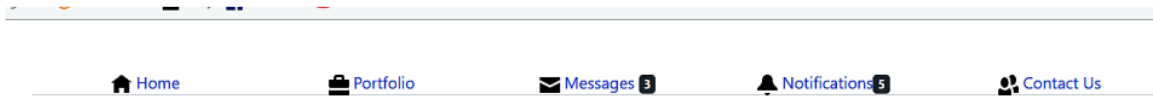

3. The following task can be implemented using:
   - Btn-group
   - Dropdown-toggle
   - Dropdown-menu
   - Dropdown-item

4. For the following task use the library mentioned in task number 2 and with the help of nav, nav-tab, nav-justified, badge(class), implement the following task.

5. Implement the following web page using BootStrap 4 and it should be responsive. Clear screenshots must be mentioned as responsive proof.

Index.html

a) Create nav bar as follows:
   - Create menu structure by using class = "**navbar**"
   - For logo in navbar use class = "**navbar-brand**"

50 FAST National University of Computer & Emerging Sciences, Peshawar

- The menu links in navbar could be implemented using unordered list. Class for ul is "**navbar-nav**" for li item is "**nav-item**" and for menu to be link, the class is "**nav-link**".
- For dropdown functionality in menu, use class="**nav-item dropdown**" in li, **<a class="nav-link dropdown-toggle" data-toggle="drop-down">**. The sub-items of "Services" are HTML, CSS, JavaScript and Bootstrap and it should be implemented as **HTML**
- Add button, search textbox and search icon. For form the class should be " **form-inline**" and use "**input-group**" for grouping all the three elements. The button should be **input-group-prepend** and class should be "**btn btn-info**". The class="**form-control**" should be used for textbox and the search icon should be "**input-group-append**".
- For collapsible button use class="**navbar-toggler**" data-toggle="**collapse**" and data-target**="#required menu**". For navbar icon use class="**navbar-toggler-icon**"

b) Create header using **jumbotron** class
c) Create thumbnail images using **class="row"** and inside img tag use class="**img-thumbnail img-fluid**"
d) Create footer
e) On clicking contact menu item the contact us form called as " **modal**" should be popped up. For creating modal use class="**modal**". It will create overall contact us form called as modal. Now the window is called as dialog and for that use separate div inside which we must have class="**modal-dialog**". Now for content inside contact us form use class="**modal-content**". The first part in modal-content is header so use another div which has class="**modal-header**". After the modal-header we have modal-body and finally there should be modal-footer which consists of close or save button. Use class="**close**" **data-dismiss="modal"** for creating *x* symbol in the form.

External style.css

f) Style body tag by adding background, set it to **background-size:cover**, and set **font-family (Constantia, Lucida Bright, DejaVu Serif, Georgia, serif)**
g) Style brand (logo), height and width: as 80px;
h) Style navbar li {color, font-size, margin-right and padding}
i) Style navbar li:hover{border-bottom: 1px solid color; padding-bottom and cursor as pointer}
j) Style jumbotron or header{background is radial-gradient(circle, white, skyblue); text-align, margin, padding, letter-spacing and color;
k) Style footer {linear-gradient, padding, margin-top, font-weight and text-align}

Images are given below to implement task number 5.
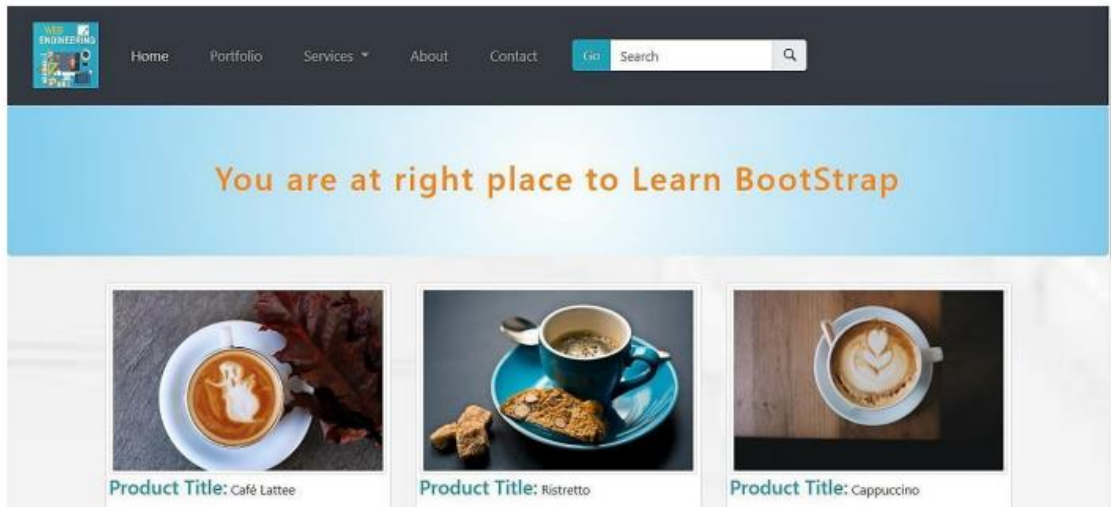
Figure 14: Navbar, Menu, header and images in row
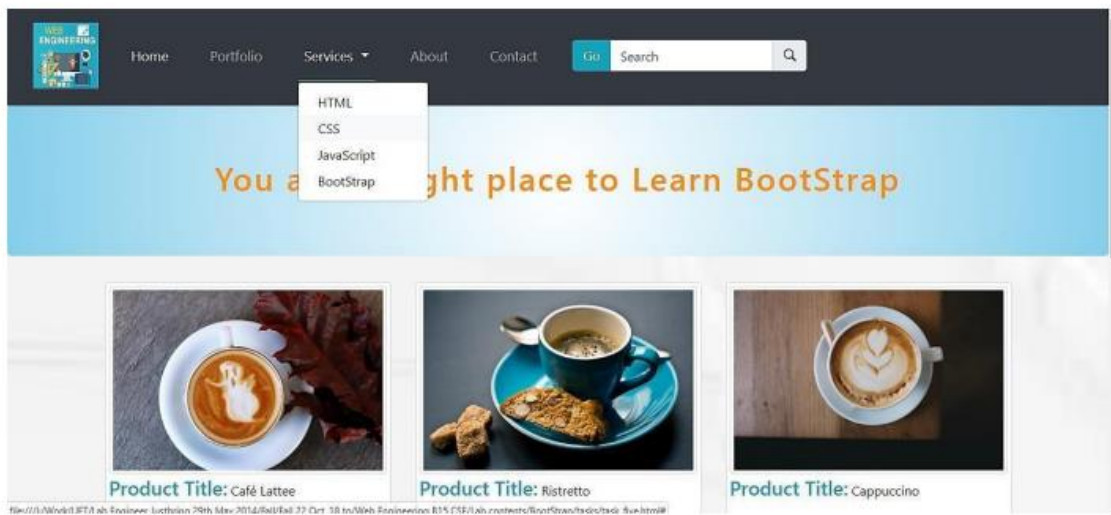

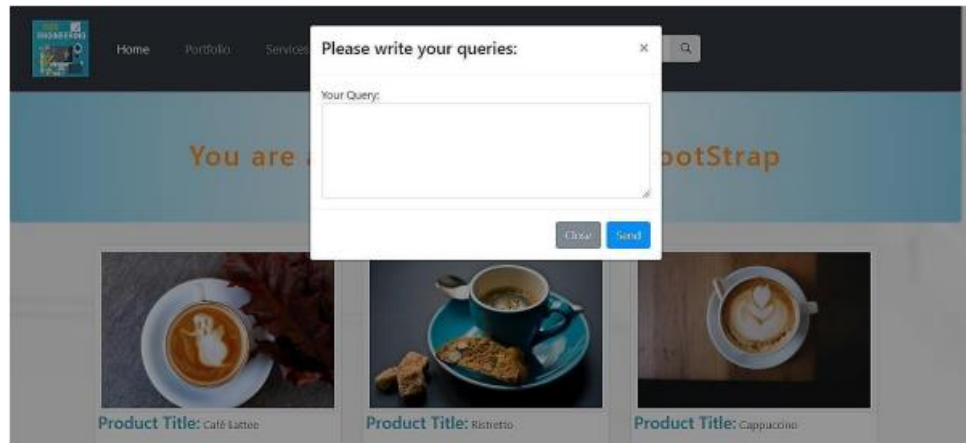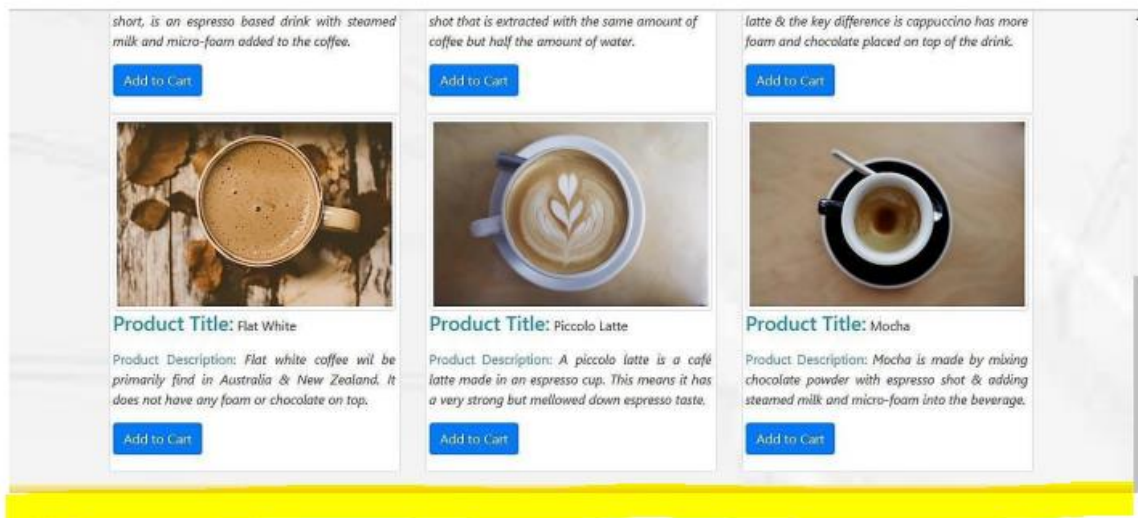Figure 15: Drop Down Menu (Services)

Figure 16: Model upon clicking Contact Menu Item
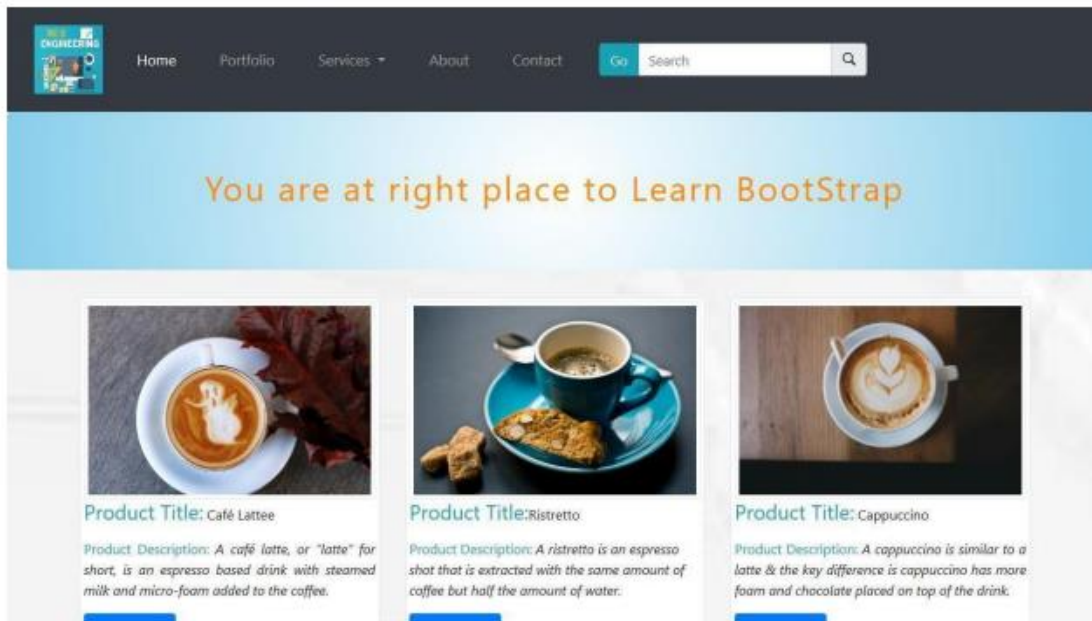
Responsive Test Images are given below

Figure 18: Test Number One
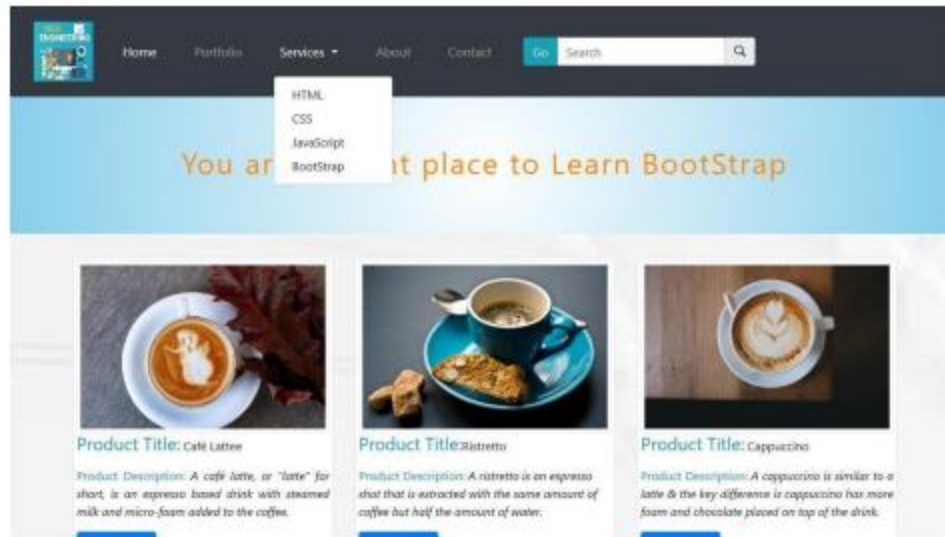
Figure 20: Test Number Three
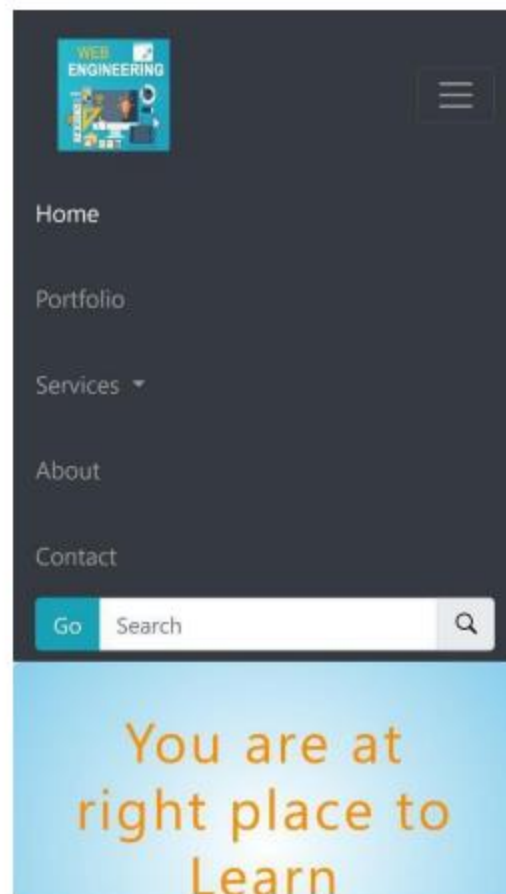
Figure 21: Test Number Four

Experiment No. 4 Bootstrap, Grid System, Tables, Forms, Navbar, Images, Typography

Objectives: To familiarize students with Bootstrap 4

Tools: Dreamweaver, Browser (Internet Explorer, Google Chrome or Firefox)

Procedure: Creating an html file by applying different Bootstrap 4 Elements

Bootstrap is a free front-end framework for faster and easier web development. It includes HTML and CSS based design templates for typography, forms, buttons, tables, navigation, modals, image carousels and many other, as well as JavaScript plugins. It also gives the ability to easily create responsive designs. Responsive Web Design is about creating web sites which automatically adjust themselves to look good on all the devices, from small phones to large desktops.

Bootstrap 4 is the newest version of Bootstrap: with new components, faster stylesheet and more responsiveness. It supports the latest, stable releases of all major browsers and platforms. However, Internet Explorer 9 and down is not supported. Bootstrap 4 does not support Bootstrap 3 Glyphicons and instead use Font-Awesome or other icon libraries.

Bootstrap could be used because it is easy to use and anybody with just basic knowledge of HTML and CSS can start using Bootstrap. It has responsive features as it automatically adjusts to phones, tablets and desktops. One of the most important feature of Bootstrap is called as Mobile-first approach. The Bootstrap is compatible with all the modern browsers such as Chrome, Firefox, Internet Explorer 10+, Edge, Safari and Opera.

There are two ways to start using Bootstrap 4 on website.

- Include Bootstrap 4 from a Content Delivery Network (CDN)
- Download Bootstrap 4 from getbootstrap.com

The Bootstrap 4 from a CDN can be as assume there is an HTML page, simply copy and paste the following line between the head tag of the HTML.

```
<!—Latest compiled and minified CSS -->
<link rel="stylesheet"href="https://maxcdn.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css">
```

Then include necessary JavaScript file before the ending body tag </body> as below:

```
<!-- jQuery library -->
<script   src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>
<!-- Popper JS -->
<script   src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.14.7/umd/popper.min.js"></script>
```

```
<!-- Latest compiled JavaScript -->
<script   src="https://maxcdn.bootstrapcdn.com/bootstrap/4.3.1/js/bootstrap.min.js"></script>
```

Many users already have downloaded Bootstrap 4 from MaxCDN 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.

The Bootstrap can be downloaded from https://www.getbootsrap.com . Once downloading is completed and unpacked the zip folder to the corresponding project files and include the following lines to the project pages wherever you want to access the functionalities of Bootstrap. The lines should be mentioned in the head tag of the page.

```
<!-- Bootstrap CSS -->
   <link  href = "bootstrap/css/bootstrap.min.css"   rel="stylesheet">
```

Bootstrap Grid System is built with up to 12 columns across the page. It means the page is divided equally into 12 different parts. If someone do not want to use all the 12 columns individually, so we 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. But the columns sum should be up to 12 or fewer and it is not required that one should use all the 12 available columns. The five different classes of Grid System are:

- .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 basic structure of the Grid System could be as:

```
<!doctype html>
<html>
<head>

<!-- Required meta tags -->
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
        <title>Grid System</title>
<!-- Bootstrap CSS -->
  <link href = "bootstrap/css/bootstrap.min.css"   rel="stylesheet">
<!-- External CSS -->
        <link rel="stylesheet" type="text/css" href="css/style.css">
<!--External JavaScript File-->
```

33 FAST National University of Computer & Emerging Sciences, Peshawar

```
        <script src="js/javascript.js"></script>
</head>

<body onResize="myFunction();">
        <div class="container-fluid">
        <div class="first_div col-xl-4 col-lg-4 col-md-8 col-sm-6">first_div col-xl-4 col-lg-4 col-md-8 col-
        sm-6</div>
        <div class="second_div col-xl-8 col-lg-8 col-md-4 col-sm-6">second_div col-xl-8 col-lg-8 col-md-
        4 col-sm-6</div>
        </div>

        <p id="demo"></p>
        <p><ul>
                <li>xlarge devices - screen width equal to or greater than 1200px</li>
                <li>large devices - screen width equal to or greater than 992px</li>
                <li>medium devices - screen width equal to or greater than 768px</li>
                <li>small devices - screen width equal to or greater than 576px</li>
        </ul></p>

<!-- function to determine the size of the window on resizing()-->
        <script>
        function myFunction() {
          var w = window.innerWidth;
          var h = window.innerHeight;
          document.getElementById("demo").innerHTML = "Width: " + w + "<br>Height: " + h;
        }
        </script>
</body>
</html>
```

Typography in Bootstrap is related to the font, text, etc. and could be as:

```
<!doctype html>
<html>
<head>
<meta charset="utf-8">
<title>Typography</title>
<!--Bootstrap-->
        <link rel="stylesheet" href="bootstrap/css/bootstrap.min.css">
<!--External CSS-->
        <link rel="stylesheet" href="css/style.css">
</head>

<body>
        <div class="h1">I am heading 1</div>
        <div class="h2">I am heading 2</div>
```

SE-301L Web Engineering Lab

```
        <div class="h3">I am heading 3</div>
        <div class="h4">I am heading 4</div>
        <div class="h5">I am heading 5</div>
        <div class="h6">I am heading 6</div>
```

```html
        <div>
                <p class="small">This paragraph is small</p>
                <p class="lead">This paragraph stands out</p>
                <p class="text-right">This text is align to right</p>
                <p class="text-warning">This is warning text to user</p>
                <p class="text-danger">This is representation of danger text</p>
                <p class="text-capitalize">First alphabet is capatalize</p>
                <p class="text-center">Text is in center</p>
                <p class="text-primary">This is primary text</p>
                <p class="text-secondary">This is secondary text</p>
                <p class="text-info">This is informative text</p>
                <p class="text-success">This is success text</p>
                <p class="text-light bg-dark">This is light text</p>
        </div>

        <div>
                <p>The unordered list </p>
                <ul class="list-unstyled">   <!-- Remove bullets -->
                        <li class="list-inline-item">HTML</li>   <!-- menu shape -->
                        <li class="list-inline-item">CSS</li>
                        <li class="list-inline-item">JAVASCRIPT</li>
                        <li class="list-inline-item">BootStrap</li>
                </ul>
        </div>

        <div>
                <p class="bg-primary text-white">bg-primary</p>
                <p class="bg-success">bg-succes</p>
                <p class="bg-danger">bg-danger</p>
                <p class="bg-warning">bg-warning</p>
                <p class="bg-info">bg-info</p>
                <p class="bg-success">bg-succes</p>
        </div>
</body>
</html>
```

```html
<!-- with  BS table properties-->
<p class="h3 bg-success text-center">Using  BS table-striped,hover  & bordered</p>
<table class="table table-striped table-hover table-bordered">
    <thead>
        <tr>
                <th>SR.No</th>
                <th>Name</th>
                <th>Father Name</th>
        </tr>
    </thead>
        <tr>
                <td>1</td>
                <td>ABC</td>
                <td>123</td>
        </tr>
        <tr>
                <td>2</td>
                <td>DEF</td>
                <td>456</td>
        </tr>
        <tr>
                <td>3</td>
                <td>GHI</td>
                <td>789</td>
```

```html
<!-- with BS table with responsive class-->
<p class="h3 bg-success text-center">Using BS table responsive</p>
<div class="table-responsive">
<table class="table table-striped table-hover table-bordered">
  <thead>
      <tr>
              <th>SR.No</th>
              <th>Name</th>
              <th>Father Name</th>
      </tr>
  </thead>
      <tr>
              <td>11111111111111111111111111111111111111111111111</td>
              <td>ABC</td>
              <td>123</td>
      </tr>
      <tr>
              <td>2</td>
              <td>DEF</td>
```

```html
<div class="container">
<form>
<div class="form-group"> <!-- Remove form-group & password will margin-top-->
        <label for="email">Email:</label>
        <input type="email" id="email_two" placeholder="Email" class="form-control">
</div>
    <div class="form-group">
```

SE-301L Web Engineering Lab

```html
<label for="password">Password:</label>
<input type="password" id="password_two" placeholder="Password" class="form-control">
</div>
<button type="submit">Login</button>
</form>
</div>
```

```html
<!--    Form inline property -->
<br /><br />
<p class="h3 text-center bg-success">Form Inline Property</p>
<div class="container">
        <form class="form-inline"> <!-- remove form-inline & check code -->
          <div class="form-group">
        <label for="email">Email:</label>
        <input type="email" id="email_inline" placeholder="Email" class="form-control">
        </div>
        <div class="form-group">
        <label for="password">Password:</label>
<input type="password" id="password_inline" placeholder="Password" class="form-control":
</div>
<button type="submit">Login</button>
</form>
</div>
<!--    Form group row property or horizontal form group-->
<br /><br />
<p class="h3 text-center bg-success">Form horizontal Property</p>
<div class="container-fluid">
        <form>
          <div class="form-group row"> <!-- remove form-group row and check -->
        <label for="email" class="col-sm-2">Email:</label>
        <div class="col-sm-10">
        <input type="email" id="email_hr" placeholder="Email" class="form-control">
        </div>
                </div>
<div class="form-group row">
<label for="password" class="col-sm-2">Password:</label>
<div class="col-sm-10">
<input type="password" id="password_hr" placeholder="Password" class="form-control">
</div>
```

```html
<body>
<!--link as button -->
        <a class="btn btn-link" href="#">Top of Page</a>
<!--button  tag-->
        <button class="btn">Default Button</button>
<!-- button large -->
        <button class="btn btn-primary btn-lg mt-3">Large</button>
<!-- button small -->
        <button class="btn btn-secondary btn-sm mt-3">Small</button>
<!-- form input tag -->
        <input type="button" value="Submit" class="btn btn-danger">
        <input type="button" value="Submit" class="btn btn-danger active"> <!-- darker background
because of active property -->
<!--button  outline-->
        <button class="btn btn-outline-primary">Outline  Primary</button>
        <button class="btn btn-outline-danger text-uppercase">Outline  Danger</button>
        <br />
<!-- Block button -->
        <p class="h4 text-center">I am block level button and comprise of full width.</p>
        <button class="btn btn-success btn-block">Full width</button>
        <br /><br />
<!-- button Group -->
        <div class="btn-group btn-lg" role="group">
                <button class="btn btn-primary">First</button>
                <button class="btn btn-secondary">Second</button>
                <button class="btn btn-success">Third</button>
        </div>
        <br /><br />
<!-- button vertical -->
        <div class="btn-group btn-group-vertical btn-lg" role="group">
                <button class="btn btn-primary">First</button>
                <button class="btn btn-secondary">Second</button>
                <button class="btn btn-success">Third</button>
        </div>
</body>
```

```
<!doctype html>
<html>
<head>
<meta charset="utf-8">
<title>Images</title>
<!-- Bootstrap CSS -->
    <link  href ="bootstrap/css/bootstrap.min.css"   rel="stylesheet">
</head>

<body>
        <div class="container">

<!-- for responsive image use img-fluid -->
<img src="images/testing.jpeg" class="img-fluid rounded" title="Responsive Image" width="500px"
height="500px">

<!-- responsive & rounded image -->
<img    src="images/testing.jpeg"    class="img-fluid    rounded-circle"    title="Responsive    Image"
width="200px" height="200px">

<!-- responsive  & thumbnail image -->
<img    src="images/testing.jpeg"    class="img-fluid    img-thumbnail"    title="Responsive    Image"
width="200px" height="200px">

        </div>
</body>
</html>
```

```html
<div class="container">
<!-- for pagination -->
    <nav>
        <ul class="pagination">
            <li class="page-item">
                <a href="#" class="page-link">
                    <span>&laquo;</span>
                </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="#">4</a>
            </li>
            <li class="page-item">
                <a class="page-link" href="#">5</a>
            </li>
            <li class="page-item">
                <a href="#" class="page-link">
                    <span>&raquo;</span>
                </a>
            </li>
        </ul>
    </nav>
```