Bootstrap

Bootstrap is a library based on Javascript , JQuery and Css tools ,first developed by Twitter.Boostrap provides with preset templates and tools to develop responsive webpages with objective of mobile first.The pages designed using bootstrap are ready to adopt to different screen.

Bootstrap can be used for

- Faster web development
- Templates for common website components like ,navigation bars,menus ,custom buttons and panels
- Can be used in tandem with other reponsive technologies like angular JS

Getting started with Bootstrap

Bootstrap can be downloaded [https://getbootstrap.com/,a](https://getbootstrap.com/) cdn can also be u

we will be starting with Bootstrap 4.Example in this document will be using localy downloaded files

Setting up bootstrap locally

Bootstrap need no installation in general ,as it has been created over CSS and JavaScript which also does not need any software to be installed

BootStrap files can be downloaded locally and attached to main application on server ,just like normal css and java script files

Lets see the basic setup

```
<!DOCTYPE HTML>
<html>
  <head>
  <link rel="stylesheet" href="bootstrap/css/bootstrap.min.css">
  <script src="bootstrap/js/bootstrap.min.js">
    </script>
</head>
 <body>
  Hello World
```

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

In the above example link is added to bootstram.min.css and location of script is added as bootstrap.min.js

Lets look at different components that can be created using BootStrap

BootStrap Container

A container is used to provide margin to contents of Web Pages and pad contents inside them

There are two types of container
Fixed Width Container
Fluid Width Container

Lets look at Fixed Width Container .These type of container create a container area with fixed width .As the screen size changes width will change accordingly

```
<!DOCTYPE HTML>
<html>
  <head>
  <link rel="stylesheet" href="bootstrap/css/bootstrap.min.css">
  <script src="bootstrap/js/bootstrap.min.js">
     </script>
</head>
  <body>
  <div class="container">
  Hello World!Welcome to BootStrap Container
  </div>
  </body>
</html>
```

A fluid container will span the complete width of the screen that is width will always remain 100%

```
<!DOCTYPE HTML>
```

```
<html>
  <head>
  <link rel="stylesheet" href="bootstrap/css/bootstrap.min.css">
  <script src="bootstrap/js/bootstrap.min.js">
      </script>
</head>
  <body>
  <div class="container-fluid">
  Hello World!Welcome to BootStrap Container
  </div>
  </body>
</html>
```

Working with Grid

The grid system in BootStrap allows page to be divided into rows and columns ,with the idea that page has to work for different devices

different components classes for creating grid

row: to create a row

col-   col- sm (small) , col-md(medium) , col-lg (large) , col-xl(extra large)

col size any number from 1 to 12

Lets see an example

To create a columns of equal width

```
<!DOCTYPE HTML>
<html>
  <head>
  <link rel="stylesheet" href="bootstrap/css/bootstrap.min.css">
```

```html
    <script src="bootstrap/js/bootstrap.min.js">
      </script>
</head>
  <body>
   <div class="container">
   <div class="row">
    <div class="col-sm">
     <p style="background-color:grey">
     Hello User 1
     </p>
     </div>
     <div class="col-sm">
        <p style="background-color:yellow">
Hello User 2
      </p>
     </div>
<div class="col-sm">
 <p style="background-color:green">
  Hello User 3
     </p>
</div>
</div>
    </body>
</html>
```

The above give example creates a grid system in which a single row with three columns the output will be

the columns sizes can be adjusted as per requirement using different column sizes

```html
<div class="container">
 <div class="row">
  <div class="col-sm-6">
   <p style="background-color:grey">
   Hello User 1
   </p>
   </div>
   <div class="col-sm-2">
      <p style="background-color:yellow">
Hello User 2
    </p>
```

```
    </div>

<div class="col-sm-2">
 <p style="background-color:green">
  Hello User 3
    </p>
</div>
</div>
```

The above example creates column with different sizes ,column size number has been used here

In grid system the columns will adjust automatically according to the division or no of columns provided

```
        <div class="container">
         <div class="row">
          <div class="col-sm">
          <p style="background-color:grey">
           Hello User 1
          </p>
          </div>
        <div class="col-sm">
          <p style="background-color:yellow">
           Hello User 2
          </p>
          </div>
         </div>
         <div class="row">
          <div class="col-sm">
           <p style="background-color:grey">
          Hello User 1
          </p>
          </div>
          <div class="col-sm">
            <p style="background-color:yellow">

            Hello User 2

          </p>
          </div>
        <div class="col-sm">
         <p style="background-color:green">
          Hello User 3
           </p>
        </div>
```

```
        </div>
```

The above example will generate an output as

Hello User 1 | Hello User 2

Hello User 1 | Hello User 2 | Hello User 3

Applying colors
To apply color to text bootstrap provides with different color classes
text-primary
text-secondary
text-success
text-danger
text-warning
text-info
text-light bg-dark
text dark
text muted
text-white bg-dark
Lets apply one text color

```
<!DOCTYPE HTML>
<html>
  <head>
  <link rel="stylesheet" href="bootstrap/css/bootstrap.min.css">
  <script src="bootstrap/js/bootstrap.min.js">
    </script>
</head>
 <body>
 <div class="container">
 <div class="row">
<div class="col-lg">
 <p class='text-success'>
 Hello User!Welcome To BootStrap
 </p>
 </div>
 </div>
 </div>
```

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

The output of above example will be

Hello User!Welcome To BootStrap

Background Color

Bootstrap provides for changing background color classes

bg-primary

bg-secondary

bg-success

bg-danger

bg-warning

bg-info

bg-light

bg-dark

bg-white

bg-transparent

```
<!DOCTYPE HTML>
<html>
  <head>
  <link rel="stylesheet" href="bootstrap/css/bootstrap.min.css">
  <script src="bootstrap/js/bootstrap.min.js">
    </script>
</head>
 <body>
 <div class="container">
 <div class="row">
<div class="col-lg">
 <p class='text-dark bg-info'>
 Hello User!Welcome To BootStrap
 </p>
 </div>
 </div>
 </div>
    </body>
</html>
```

In the above example a background class is used along with text color

output will be

Hello User!Welcome To BootStrap

creating BootStrap table

To create different types of tables BootStrap provides with table specific classes

A simple table class will generate below given table format

```
<div class="container">
  <table class="table">
  <tr>
  <th>
```

Agent Name	City	Target
Peter Jones	New York	15000
Sam	Mumbai	19000

Stripped table

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

Agent Name	City	Target
Peter Jones	New York	15000
Sam	Mumbai	19000

Bordered Table

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

Agent Name	City	Target
Peter Jones	New York	15000
Sam	Mumbai	19000

BorderLess Table

```
<table class="table table-borderless">
```

Agent Name	City	Target
Peter Jones	New York	15000
Sam	Mumbai	19000

hoverable table

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

Agent Name	City	Target
Peter Jones	New York	15000
Sam	Mumbai	19000

Small table

```
<table class="table table-sm">
```

Agent Name	City	Target
Peter Jones	New York	15000
Sam	Mumbai	19000

Contextual class for formatting rows and cells

table-primary

```
<tr class='table-primary'>
```

Agent Name	City	Target
Peter Jones	New York	15000
Sam	Mumbai	19000

table-active

```
<tr class='table-active'>
```

Agent Name	City	Target
Peter Jones	New York	15000
Sam	Mumbai	19000

other contextual classes
table-secondry
table-success
table-danger
table-warning
table-info
table-light
table-dark

Table can be made responsive using a table responsive class

```
<table class="table table-responsive ">
```


Agent Name	City	Target
Peter Jones	New York	15000
Sam	Mumbai	19000

This will create an allways responsive table

To create a responsive table upto particular breakpoint

use table-responsive{-sm | -md | -lg | -xl}

```
<table class="table table-responsive-sm ">
```

Agent Name	City	Target
Peter Jones	New York	15000
Sam	Mumbai	19000

Responsive Images

To make responsive images img-fluid class can be used ,also max-width:100% and height:auto can be used

A thumbnail effect can be used by class img-thumbnail

rounded effect across image can be produced using rounded class

Lets see an example

```
<div class="container">
   <img src='image8.jpg' class="img-fluid img-thumbnail rounded float-right"/>
  </div>
```

output of above code will be

Alert Text

BootStrap provides with Alert classes to provide feedback to the user

List of Alert Classes

alert-primary

alert-secondary

alert-success

alert-danger

alert-warning

alert-info

alert-light

alert-dark

Lets see an example

```
<div class="container">
    <div class='alert alert-warning'>
  Kindly save information before closing
</div>
  </div>
```

The above information will generate below given output

Kindly save information before closing

BootStrap Buttons

To create BootStrap buttons below given classes can be used

btn-primary

btn-secondary

btn-warning

btn-info

btn-danger

btn-success

btn-dark

btn-light

btn-link

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

the above example will produce ouput as

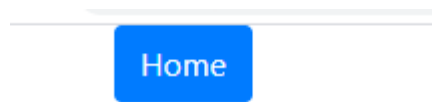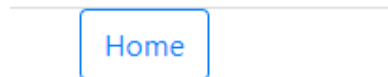A hyper link can also be displayed as button using above given classes

```
<div class="container">
    <a href='#' class='btn btn-primary'>Home</a>
  </div>
```

the above code will produce below given output

```
Home
```

A btn-outline class can be used to generate a button with outline sans color

```
<div class="container">
    <a href='#' class='btn btn-outline-primary'>Home</a>
  </div>
```
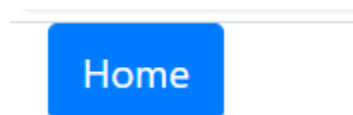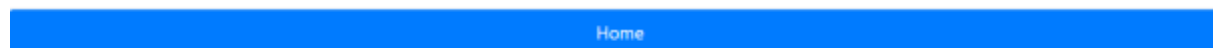
The above example will generate below given output

```
Home
```

To set different sizes we can use classes btn-lg or btn-small

```
<div class="container">
    <a href='#' class='btn btn-primary btn-lg'>Home</a>
  </div>
```

```
Home
```

Use btn-block to use block level button

```
Home
```

Badges

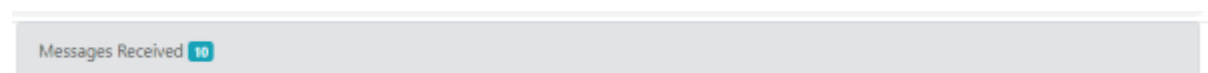Badges are used for small labeling components or creating a badge or count component

To create a badge   ,badge class can be used along with following modifying classes

badge-primary

badge-secondary
badge-success
badge-danger
badge-warning
badge-info
badge-light
badge-dark

Lets see an example
```
<div class='container'>
      <div class='alert alert-secondary'>
           Messages Received <span class='badge badge-info'>10</span>
        </div>
     </div>
```
The above example creates a badge using a span and badge class
output of above example will be

Messages Received 10

rounded badges can be made using badge-pill

```
<div class='container'>
      <div class='alert alert-secondary'>
           Messages Received <span class='badge badge-pill badge-info'>10</span>
        </div>
     </div>
```

Messages Received 10

BootStrap Progress Bar
To create a BootStrap progress bar progress ,progress and progress-bar class can be used

```
<div class='container'>
<div class="progress">
  <div class="progress-bar" role="progressbar" style="width: 90%" aria-valuenow="90" aria-valuemin="0" aria-valuemax="100">90%</div>
</div>
</div>
     </div>
```

In the above example a progress class is used to create an outer container for progress bar and an inner div class displays actual progress

some attributes used in progress bar are aria-valuemin,aria-valumax,aria-valuenow and style attribute for minimum,maximum,current and progress of progress bar (style="width:90%")

A stripped progress bar can be created using progress-bar-stripped

```
<div class="progress">
  <div class="progress-bar progress-bar-striped bg-warning" role="progressbar" style="width: 50%" aria-valuenow="50" aria-valuemin="0" aria-valuemax="100"></div>
</div>
```

we can created animated progress bar using progress-bar-animated

```
<div class="progress">
  <div class="progress-bar progress-bar-striped progress-bar-animated bg-warning" role="progressbar" style="width: 50%" aria-valuenow="50" aria-valuemin="0" aria-valuemax="100"></div>
</div>
    </div>
```

BootStrap Spinner

A spinner can be used to display a process in progress ,like a loading page or a background process going on

to create a spinner use spinner-border class

```
<!DOCTYPE HTML>
<html>
  <head>
  <link rel="stylesheet" href="bootstrap/css/bootstrap.min.css">
  <script src="bootstrap/js/bootstrap.min.js">
    </script>
</head>
  <body>
                  <div class='container'>
  <div class="spinner-border">

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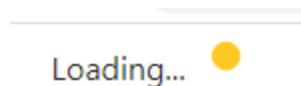
```
      </div>
    </body>
</html>
```

The above code will produce a spinning graphic on page

We can also use a grow spinner

```
  <div class='container'>
Loading...
  <div class="spinner-grow bg-warning">

 </div>

    </div>
```

Loading...

BootStrap Pagination
We can use pagination to provide navigation between pages using page numbers
To create pagination ,we can use pagination class along with page-item class

The below given example shows how to create a pagination
```
<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>
```
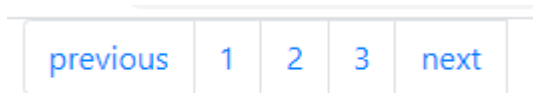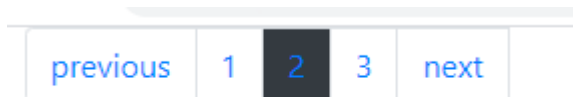
```
<a href="#" class="page-link">next</a>
</li>
</ul>
</nav>
```

previous | 1 | 2 | 3 | next

To show an active link ,a background attribute can be used

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

previous | 1 | 2 | 3 | next

BootStrap modal class
 A Modal class is used to generate a pop up

```
<div class="container">
  <h2>Modal Example</h2>

  <button type="button" class="btn btn-info btn-lg" data-toggle="modal" data-target="#data">Open Modal</button>


  <div class="modal fade" id="data" role="dialog">
    <div class="modal-dialog">


      <div class="modal-content">
        <div class="modal-header">
          <button type="button" class="close" data-dismiss="modal">X</button>
          <h4 class="modal-title">Model Data Header</h4>
        </div>
        <div class="modal-body">
          <p>Data modal header</p>
        </div>
        <div class="modal-footer">
```

```
      <button type="button" class="btn btn-default" data-dismiss="modal">Close</button>
    </div>
  </div>

  </div>
 </div>

</div>
```

The above example creates a modal dialog by using modal ,modal-fade,modal-dialog,modal-header,modal-content,modal-title,modal-body,modal-footer

A button is created that is connected to modal dialog using data-target attribute

A div is created that is holding id that is targeted by button

The above example uses an addittional link to JQuery as the Modal classes has been built upon JQuery and use functions of JQuery

BootStrap NavBar
A Navbar can be created using navbar class with different modifiers

navbar-default
navbar-inverse
navbar-left
navbar-fixed-top
navbar-fixed-bottom

we can use container inside the navbar to hold controls

Lets see an example

```
<div class="container">
<div class="navbar navbar-default">
 <div class="container-fluid">
```

```html
    <div class="navbar-header>
    <div class="navbar-brand"> My WebSite</div>
   </div>
  <ul class="nav navbar-nav">
   <li>
   <a href='#'>HOME</a>
   </li>
   <li>
<a href='#'>PRODUCTS</a>
  </li>
   <li>
   <a href='#'>ABOUT US</a>
   </li>
   <li>
   <a href='#'>CONTACT US</a>
   </li>
   </ul>
   </div>
   </div>
</div>
```

Building a carousel
A carousel is like a moving gallery or slideshow of images

Lets see an example to build a carousel

```html
<div class="container">
  <br>
  <div id="myslide" class="carousel slide" data-ride="carousel">
   <!-- Indicators -->
   <ol class="carousel-indicators">
     <li data-target="#myslide" data-slide-to="0" class="active"></li>
     <li data-target="#myslide" data-slide-to="1"></li>
     <li data-target="#myslide" data-slide-to="2"></li>
     <li data-target="#myslide" data-slide-to="3"></li>
   </ol>


   <div class="carousel-inner" role="listbox">
```

```html
    <div class="item active">
     <img src="image5.jpg"  width="460" height="345">
     <div class="carousel-caption">
      <h3>Image 1</h3>
      <p>Image 1</p>
     </div>
    </div>

    <div class="item">
     <img src="image6.jpg"  width="460" height="345">
     <div class="carousel-caption">
      <h3>Image 2</h3>
      <p>Image 2</p>
     </div>
    </div>

    <div class="item">
     <img src="image7.jpg"  width="460" height="345">
     <div class="carousel-caption">
      <h3>Image 3</h3>
      <p>Image 3</p>
     </div>
    </div>

    <div class="item">
     <img src="image8.jpg"  width="460" height="345">
     <div class="carousel-caption">
      <h3>Image 4</h3>
      <p>Image 4</p>
     </div>
    </div>

   </div>


   <a class="left carousel-control" href="#myslide" role="button" data-slide="prev">
    <span class="glyphicon glyphicon-chevron-left" aria-hidden="true"></span>
    <span class="sr-only">Previous</span>
   </a>
   <a class="right carousel-control" href="#myslide" role="button" data-slide="next">
    <span class="glyphicon glyphicon-chevron-right" aria-hidden="true"></span>
    <span class="sr-only">Next</span>
   </a>
  </div>
```

The above example uses following classes

carousel-slide   to create slides

carousel-indicator to add carousal indicator

carousel-caption   to add caption to carousel

left carousal-control to add control to back previous slide

right carousal-control to add control to go forward to next slide

Creating and Applying a bootstrap theme

Let's create a basic bootstrap template that has following elements

A Top Navigation Bar

A Side navigation Bar

A Grid system at the bottom

An area to add contents

Lets add the necessary links and files first .For this example we will use CDN

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap Template</title>

  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.4.1/jquery.min.js"></script>
  <script
src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
</head>
<body>

<nav class="navbar navbar-default">
<div class="container">


</div>
 </nav>
<div class="container">
</div>
</body>
</html>
```

In the above step we have added necessary CDN links and a navbar

Lets add a Grid System to hold footer and some Images

```
<div class="container">
  <div class="row">
    <div class="col-sm-4">


  <p class="bg-info">
   Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt
ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation
ullamco laboris nisi ut aliquip ex ea commodo consequat.
    </p>
 </div>
    <div class="col-sm-4">
<p class="bg-info">
   Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt
ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation
ullamco laboris nisi ut aliquip ex ea commodo consequat.

 </div>
    <div class="col-sm-4">
<p class="bg-info">
   Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt
ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation
ullamco laboris nisi ut aliquip ex ea commodo consequat.

 </div>
  </div>
```

In the above example a grid system is created with row divided in three equal parts

Lets Place complete structure in a table.table tag is used to arrange controls in specific
section of page .Also content area is filled with sample images

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap Template</title>

  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.4.1/jquery.min.js"></script>
  <script
src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
</head>
<body>
<table>
  <tr>
<td>


 </td>
  <td>
<nav class="navbar navbar-default">
<div class="container">
<ul class="nav navbar-nav">
 <li>
 <a href='#'>Home</a>
 </li>
<li>
 <a href='#'>About Us</a>
 </li>
<li>
 <a href='#'>Contact Us</a>
 </li>
<li>
 <a href='#'>Product</a>
 </li>
</ul>
</div>
 </nav>
  </td>
  <td>

 </td>
 </tr>
 <tr>
```

```html
 <td>
<table>
 <tr>
 <td>
<a href='#' class='btn btn-info btn-lg'> Link1</a>
 </td>
  </tr>
 <tr>
 <td>
<a href='#' class='btn btn-info btn-lg'> Link2 </a>
 </td>
 </tr>
 <tr>
 <td>
 <a href='#' class='btn btn-info btn-lg'> Link3</a>
 </td>
 </tr>
<tr>
 <td>
 <a href='#' class='btn btn-info btn-lg'> Link4</a>
 </td>
 </tr>
<tr>
 <td>
 <a href='#' class='btn btn-info btn-lg'> Link5</a>
 </td>
 </tr>
<tr>
 <td>
 <a href='#' class='btn btn-info btn-lg'> Link6</a>
 </td>
 </tr>
<tr>
 <td>
 <a href='#' class='btn btn-info btn-lg'> Link7</a>
 </td>
 </tr>

</table>
 </td>
 <td>
   <img src='image8.jpg' class="img-fluid img-thumbnail rounded " />
<img src='image7.jpg' class="img-fluid img-thumbnail rounded " />
<img src='image6.jpg' class="img-fluid img-thumbnail rounded " />
```

```html
<img src='image5.jpg' class="img-fluid img-thumbnail rounded " />
<img src='image8.jpg' class="img-fluid img-thumbnail rounded " />
<img src='image1.jpg' class="img-fluid img-thumbnail rounded " />
<img src='image2.jpg' class="img-fluid img-thumbnail rounded " />
<img src='image3.jpg' class="img-fluid img-thumbnail rounded " />
<img src='image4.jpg' class="img-fluid img-thumbnail rounded " />
</td>

  </tr>
<tr>
 <td>
 </td>
 <td>
<div class="container">
  <div class="row">
    <div class="col-sm-4">


  <p class="bg-info">
  Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt
ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation
ullamco laboris nisi ut aliquip ex ea commodo consequat.
    </p>
 </div>
    <div class="col-sm-4">
<p class="bg-info">
  Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt
ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation
ullamco laboris nisi ut aliquip ex ea commodo consequat.

 </div>
    <div class="col-sm-4">
<p class="bg-info">
  Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt
ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation
ullamco laboris nisi ut aliquip ex ea commodo consequat.

 </div>
   </div>


 </td>
 </tr>

</table>


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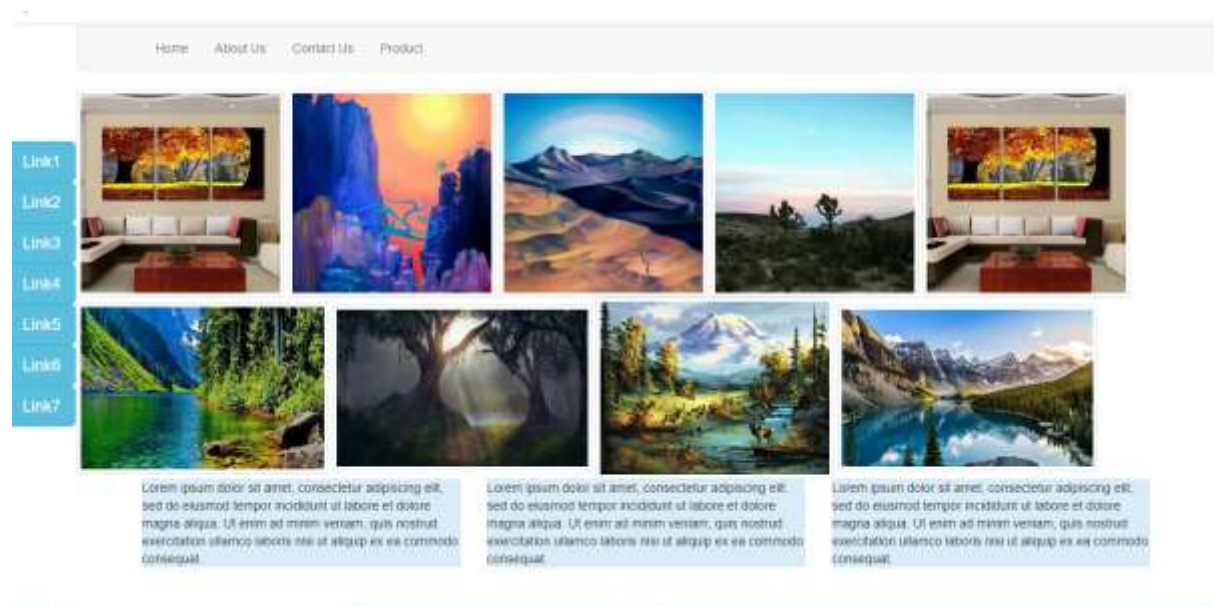
```
</body>
</html>
```

The final site would look like below image

The content area and links can be replaced with required text.also more navigations can be added to menu as per requirement

****

summary

summary

Bootstrap is a library based on Javascript , JQuery and Css tools ,first developed by Twitter.Boostrap provides with preset templates and tools to develop responsive webpages with objective of mobile first.The pages designed using bootstrap are ready to adopt to different screen.

A Bootstrap container is used to provide margin to contents of Web Pages and pad contents inside them

The grid system in BootStrap allows page to be divided into rows and columns ,with the idea that page has to work for different devices

BootStrap provides with Alert classes to provide feedback to the user

Badges are used for small labeling components or creating a badge or count component

a progress class is used to create an outer container for progress bar and an inner div class displays actual progress

A stripped progress bar can be created using progress-bar-stripped

A spinner can be used to display a process in progress ,like a loading page or a background process going on

to create a spinner use spinner-border class

We can use pagination to provide navigation between pages using page numbers

To create pagination ,we can use pagination class along with page-item class

A Modal class is used to generate a pop up

A Navbar can be created using navbar class with different modifiers

A carousel is like a moving gallery or slideshow of images

Q #1) Define Bootstrap.
Answer: Bootstrap is a front-end framework that is used for creating HTML, CSS, and JS web applications. Its layout is very responsive, fast and easy to use. It mostly focuses on building a mobile application with having design templates for creating UI like Dropdown, Forms, Buttons, Alerts Tab, etc.

Q #2) Why Bootstrap is used for Mobile Web development?
Answer: It is used for Mobile Web development because it has responsive designs and templates which are easy to use.

Q #3) Explain the features of Bootstrap.
Answer: Its features include:
- Open source for use
- Compatibility with all browsers.
- Responsive designs
- Easy to use and fast.

Q #4) Define the key components of Bootstrap.
Answer: Its components include:
- **Scaffolding:** It has the grid system, background, styles.
- **JS Plugins:** Contains JS and jQuery plugins.
- **Customize:** Can customize frameworks.
- **CSS:** Contains CSS files.

Q #5) What do you understand by Bootstrap container?

Answer: Bootstrap container behaves like a container where you can put HTML code and it is a part within the page where the content of the site can be placed to make it responsive and fast.

Q #6) What do you mean by Bootstrap Classloader?

Answer: Bootstrap class loader is a part of java and a main parental class of class loader.

Q #7) How many types of layouts are there in Bootstrap?

Answer: There are two types of layouts in Bootstrap.

They are:
- Fluid Layout
- Fixed Layout

Q #8) Define Fluid Layout.

Answer: Fluid Layout is useful when you need to make an app that involves the full width of the screen i.e. Fluid Layout adjusts itself according to the browser size.

Q #9) Define Fixed Layout.

Answer: A fixed layout is responsive and easy to use but just like the fluid layout, it cannot adjust itself according to the browser size. The fixed layout should be 940 px in most cases.

Q #10) How can you display code in Bootstrap?

Answer: You can display the code in two ways i.e. by using the <code>tag and by using the <pre>tag.

Q #11) When will you use <code>tag and <pre>tag?

Answer: <code>tag is used to show the code inline and <pre>tag is used to show code with multiple lines.

Q #12) What is a progress bar in bootstrap?

Answer: Progress bar is used with HTML tag style in HTML element using <**progress**> keyword. In bootstrap, we use html5 <**progress**> with CSS classes that have special features in bootstrap, which is only made for the progress bar.

Q #13) Name the contextual classes that are used with the progressive bar in bootstrap.

Answer: The contextual classes used with progressive bar are as follows.
- Progress-success
- Progress-info
- Progress-warning
- Progress-danger

Q #14) What are responsive utility classes in Bootstrap?

Answer: Responsive utility classes in bootstrap are a set of classes that are used to conceal or exhibit the HTML elements based on screen resolution that discerns by media query in bootstrap.

Example: "hidden-md-down", It hides

Q #15) What are the different button styles in Bootstrap?

Answer: In bootstrap, there are seven styles which we can use with the bootstrap button.
- .btn-default.
- .btn-primary
- .btn-success
- .btn-info
- .btn-warning.
- .btn-danger.
- .btn-link.

Q #16) What are Bootstrap alerts?

Answer: This is used to create presume alert messages, which adds style to the messages to look more noticeable to the user.

There are four classes in alerts: .alert-success, .alert-info, .alert-warning, .alert-danger.

Q #17) Define Bootstrap thumbnails.

Answer: It is a way to use the layout images, videos, text, etc. in a grid system. We can create thumbnails by adding a tag with the class **.thumbnails** around the image.

This will add four pixels of padding and a grey border.

Q #18) Explain Modal plugin in Bootstrap.

Answer: A model is an inherited window that is layered over its parent window. This is used to augment the user experience and adds different functionalities to the users. Model windows are created with the help of the modal plugin.

Q #19) Which class is used for pagination in Bootstrap?

Answer: To add pagination on the webpage we have to use the class **.pagination**.

Q #20) Explain what is Bootstrap collapsing elements.

Answer: It allows you to collapse any particular element without using any JavaScript code.

To use this feature in bootstrap you have to add data-toggle=" collapse" to the controller element along with a data target to automatically assign the control of a collapsible element. We can use this by writing **.collapse(options)** etc.

Q #21) What is Bootstrap Well?

Answer: Bootstrap well is a form of container which thrives or makes the content look recessed on the web page. It also wraps the content by using **.well** class.

Q #22) Explain the uses of the carousel plugin in Bootstrap.

Answer: Carousel plugin in bootstrap is used to make sliders in the web pages or your site. There are several carousel plugins that are used in bootstrap to display large contents within a small space by adding sliders.

Example: **.carousel(options), .carousel('pause'), .carousel(cycle'), .carousel('prev'), .carousel('next').**

Q #23) What will be the output of the below code and why?

```
 <div class="progress">

<div class="progress-bar progress-bar-success" style="width: 65%">

<span class="sr-only">75% successfully completed</span>

</div>

<div class="progress-bar progress-bar-warning" style="width: 20%">

<span class="sr-only">30% completed with warnings</span>

</div>

<div class="progress-bar progress-bar-danger" style="width: 15%">

<span class="sr-only">15% did not complete</span>
```

```
</div>

</div>
```

Answer: If we place multiple bars with the same **.progress** parent element, Bootstrap will pile them into one single progress bar. As we know, in bootstrap the sum of the progress bar is 100 %. So, the progress bar will give the result as full width and fully populated.

Q #24) How can we customize links of pagination in Bootstrap?

Answer: We can customize the links by using **.disabled** for unclickable links and **.active** for indicating the current page.

Q #25) Explain the input group in Bootstrap.

Answer: Input group in bootstrap is put out from controls. By using an input group, we can easily add prepended and appended text or button to the text-based inputs.

We can prepend and append elements to a **.form-control** by taking all the elements in a <div> under a class **.input-group.** After that, place your extra content inside a <span> in same <div> by using class **.input-group-addon** after this you can place the <span> element either before or after the input element.

Q #26) Write the ways to create a tabbed navigation menu in Bootstrap.

Answer: We can create tabbed navigation by making a basic unordered list with the base class of **.nav** and after this, we can add class **.nav-tabs**.

Q #27) In Bootstrap, how can you create a pills navigation menu?

Answer: Pills navigation menu in bootstrap is created by making an unordered list at first with the base class of **.nav** and after this add the class **.nav-pills**.

Q #28) How navbar works in Bootstrap?

Answer: In bootstrap, the navbar is an eminent feature to make a responsive meta component that works as navigation headers for your application and site. In the mobile view, the navbar collapses and becomes horizontal as the available viewport width increases.

Q #29) How we can create a navbar in Bootstrap?

Answer: To create a navbar in a bootstrap at first, we have to add the classes **.navbar**, **.navbar-default** to the <nav> tag. After this, we have to add the role=" navigation" to the above element, and this will help inaccessibility.

We have added a header class **.nav-header** to the <div> element, which will include an <a> element with a class navbar brand. From this, we will get a text with a larger size.

Q #30) What is Bootstrap breadcrumb?

Answer: Bootstrap breadcrumb is an efficient way to show hierarchy-based information for a site. This can show the dates of publishing, categories or tags in a blog. They also tell the user about the current page location within a navigational hierarchy.

So we can say that Bootstrap breadcrumb is simply an unordered list with a class of **.breadcrumb**.

Q #31) What are labels in Bootstrap?

Answer: Bootstrap labels are used for offering counts, tips or other things to provide markup on web pages. To use the label in Bootstrap we use the class **.labels** to indicate the labels.

Q #32) What are badges in Bootstrap?

Answer: Badges are homogeneous to labels, the main difference between them is corners are more rounded. The main work of badges in the bootstrap is to highlight new or unread items. To use badges just add <span class="badge"> to links and bootstrap navs.

Q #33) What is a jumbotron in Bootstrap?

Answer: It is used to increase the size of headings and to add a lot of margins for landing page content. To create a jumbotron we have to create a container <div> with the class of **.jumbotron.**

Q #34) How can we make image responsive in Bootstrap?

Answer: After the updates in Bootstrap, currently the feature to make an image responsive has been added, we can do this by adding a class **.img-responsive** to the <img> tag. This class makes the width max-width =100%; and height=auto; to the image so that it matches nicely to the parent element.

Q #35) What do you mean by normalize in Bootstrap?

Answer: Bootstrap normalize is a small CSS file that is used to make cross-browser consistency.

Q #36) What is lead body copy in Bootstrap?

Answer: It is used to add some ascent to the paragraph if we add class="lead". This will enlarge the font size and taller line-height.

Q #37) What are panels in Bootstrap?

Answer: Panels are components that are used when you want to put your DOM component in a box. So, to retrieve a basic panel we just need to add class.panel to the <div> element. We can also add class.panel-default to this element.

Q #38) How will you create a Bootstrap panel with the heading?

Answer: There are two ways by which we can add panel heading.

First is, we can directly use the **.panel-heading** class to add heading containers in a panel and the second way is by using any heading tag like <h1> to <h6> with a **.panel-title** class to give more styles on the heading.

Q #39) What is a scrollspy plugin in Bootstrap?

Answer: It is an auto-updating nav plugin that allows in fetching section of the page based on the scroll position. This can be done by **the .active class** to the navbar based scroll position.

Q #40) What is the work of the affix plugin in Bootstrap?

Answer: This plugin allows a <div> to be attached to a location on the page.

Use of the social icon in a page is an example for this in which we see that the icons will start in a location, but when the page hits on a certain mark it will block the <div> in place and will stop the scrolling for rest of the page.

Q #41) What is the grid system in Bootstrap?

Answer: By using the grid system, we can make up to 12 columns across a page. There are different classes that have been defined for this for the UI purpose.

Q #42) What are Grid classes in the Bootstrap?

Answer: There are four grid classes in Bootstrap.

They are:

- **xs** (It is used for phone screens less than 786px wide).
- **sm** (It is used for the tablet screens which are greater than 786px wide).
- **md** (It is for small laptop screen of size equal to or greater than 992px wide).
- **LG** (It is for laptop and desktop screens which are equal to greater than 1200px wide).

Q #43) What are global styles that are used in Bootstrap Default Typography?

Answer: In Bootstrap the global default font-size is 14px and the line height is 1.428. The default font changes to Helvetica and Arial are with sans-serif fallback and all these styles are applicable for both body and all paragraphs.

Q #44) What will be the output of the below code?

<div

class="row">

```
<div class="col-xs-12 col-md-3">.col-xs-12 .col-md-3</div>

</div>
```

Answer: The output of this will give the grids for extra small devices as we can see in the snippet col-xs-12 that has been used and it will also give the grids for desktop devices and above as the class col-md-3 has been used.

Q #45) What dependencies does Bootstrap require to work properly?
Answer: jQuery is the only dependency that bootstrap requires for working properly and this is only for JavaScript plugins in bootstrap.

Q #46) Explain what the below code will do?
```
<a href="#">Home <span class="badge">36</span></a>
```

Answer: This code will produce a link with an inline badge which will give an important notification to the user like number received, message received or the number of requests, etc.

Q #47) What are the two codes that are used for code display in Bootstrap?
Answer: The codes are <code> tag and <pre> tag.

Q #48) What is the difference between Bootstrap and Foundation?
Answer: Bootstrap uses very fewer preprocessors as it supports less and it allows the designing and development for both mobile and desktop. On the other hand, Foundation supports sass processors and it is used only for mobile UI designing.

Q #49) What are Glyphicons in Bootstrap?
Answer: By this, we can use the icon simply anywhere in your code.
```
<span class="glyphicon glyphicon-search"></span>
```

Q #50) What is a transition plugin in Bootstrap?
Answer: It provides simple transition effects like sliding or fading in modals.

Q #51) Explain the concept of creating a vertical or basic form in Bootstrap.
Answer: For this first we have to add a role form to the parent <form> element then we have to wrap labels and controls in a <div> with class.form-group and then we have to add a class of .form-control to all text url <input>,<textarea> and <select> elements.