

Web Technologies

Week # 8: Responsive Web Page

Spring 2023



Today's Objective

- Recap
- HTML CSS Responsive Design
- Media Queries
- Introduction to Bootstrap
- Bootstrap usage
- Grid System

HTML Responsive Design

- Responsive web page means the web page will look **accurate** on different devices like mobile phones, tablets, and PCs.
- Responsive design adjusts automatically to different screen sizes and viewports.
- We can use basic HTML and CSS to make web page responsive.
- There are different steps to do this:
 - Set the viewport - This will ask browser to set the width of the content according to the device

```
<head>  
  <title>Responsive Web Design</title>  
  <meta name="viewport" content="width=device-width, initial-scale=1.0">  
</head>
```

HTML Responsive Design

- There are different steps to do this:
 - Responsive Images - set the property of **width/max-width** to 100% to make image adaptive to width of the page
 - Responsive Text - The unit of text can be changed to **vw (viewport width)** which will change the text according to the width of the viewport.

```
<h2>Hello World</h2>
<p>Lorem ipsum dolor sit amet, consectetur adipisicing elit. Libero deleniti amet ipsa tenet

<h3 style="font-size: 10vw;">Hello Again</h3>
<p style="font-size: 5vw;">Lorem, ipsum dolor sit amet consectetur adipisicing elit. Ut vel


```

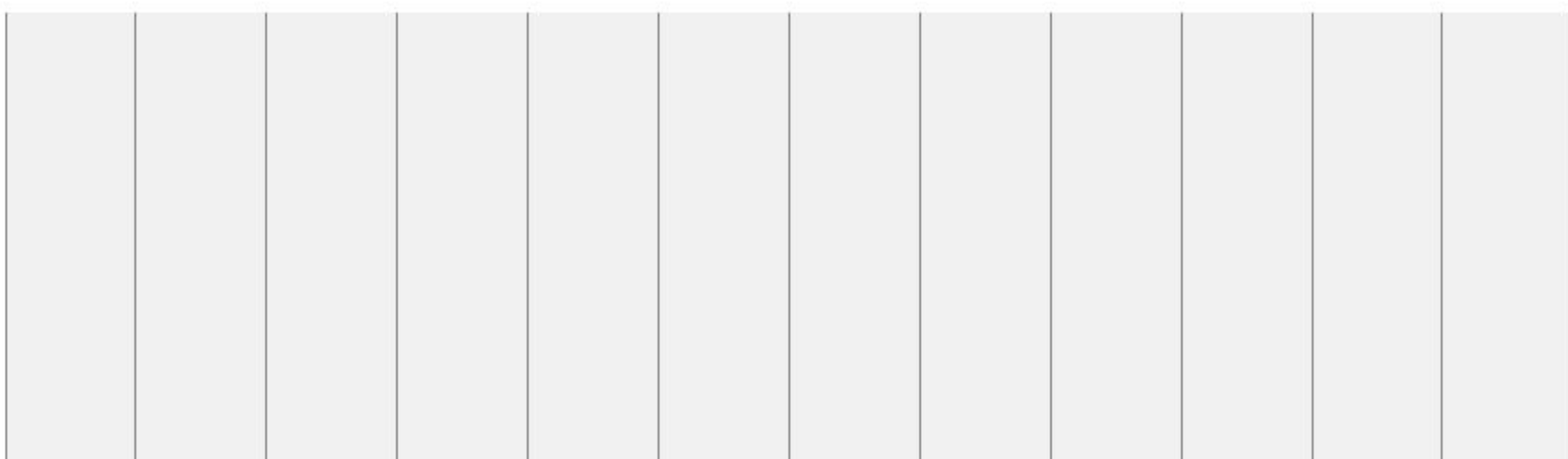
Media Queries

- Media Queries are used to set **different styles** for **different** browser **sizes** (desktop, laptop, mobile, or tablet etc.)
- It uses the **@media** rule to include a block of CSS properties only if a certain condition is **true**.
- https://www.w3schools.com/cssref/css3_pr_mediaquery.php

```
@media screen and (max-width: 600px){  
  body{  
    background-color: ■ chartreuse;  
    color: ■ darkgreen;  
  }  
}  
  
@media screen and (min-width: 801px){  
  body{  
    background-color: □ black;  
    color: ■ aliceblue;  
  }  
}
```

Introduction to Grid System

- A grid system means that a web page is divided into **columns**.
- There are **12** columns in a web page.
- All elements should have `box-sizing` **property** set to `border-box`



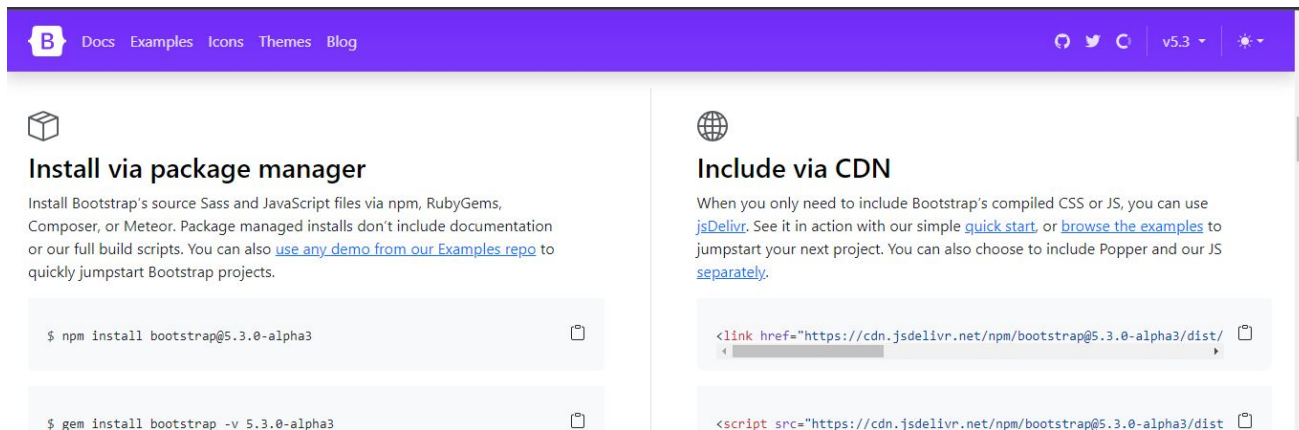
```
*{  
    box-sizing: border-box;  
}
```

```
.im1{  
    width: 40%;  
    float: left;  
}
```

```
.im2{  
    width: 40%;  
    float: right;  
}
```

Introduction to Bootstrap

- Bootstrap is a free **front-end framework** for faster and easier web development
- Bootstrap includes **HTML** and **CSS** based design templates for typography, forms, buttons, tables, navigation, modals, image carousels and many other, as well as optional **JavaScript** plugins
- **Bootstrap** also gives you the ability to easily create **responsive** designs
- Can access Bootstrap from: **<https://getbootstrap.com/>**



Bootstrap - Grid Layout

.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1
.col-md-8								.col-md-4			
.col-md-4				.col-md-4				.col-md-4			
.col-md-6						.col-md-6					

The Grid System

- The grid has 12 columns which can be used as per the screen size:
 - col-xs-[val 0-12]: screen size which is less than 768px (for phones)
 - col-sm-[val 0-12]: screen size which is greater than or equal to 768px (for tablets)
 - col-md-[val 0-12]: screen size which is greater than or equal to 992px (for laptops)
 - col-lg-[val 0-12]: screen size which is greater than or equal to 1200px (for laptops and desktops)
- For websites to run mostly on Desktop, we use **col-md** and **col-lg**

```
<body>
  <div class="container">
    <div class="row">
      <div class="col-md-3">
        This is a div
      </div>

      <div class="col-md-3">
        This is another div.
      </div>

      <div class="col-md-3">
        This is another div.
      </div>

      <div class="col-md-3">
        This is another div.
      </div>
    </div>
  </div>
</body>
```

```
<div class="row">
  <div class="col-sm-4">COL-SM-4</div>
  <div class="col-sm-4">COL-SM-4</div>
  <div class="col-sm-4">COL-SM-4</div>
</div>
```

Buttons

- There are many different styles provided by default.
- There are multiple classes in Bootstrap which can be used.
- Some examples are:
 - `.btn`
 - `.btn btn-primary`
 - `.btn btn-success`
 - `.btn btn-warning`
 - `.btn btn-info`

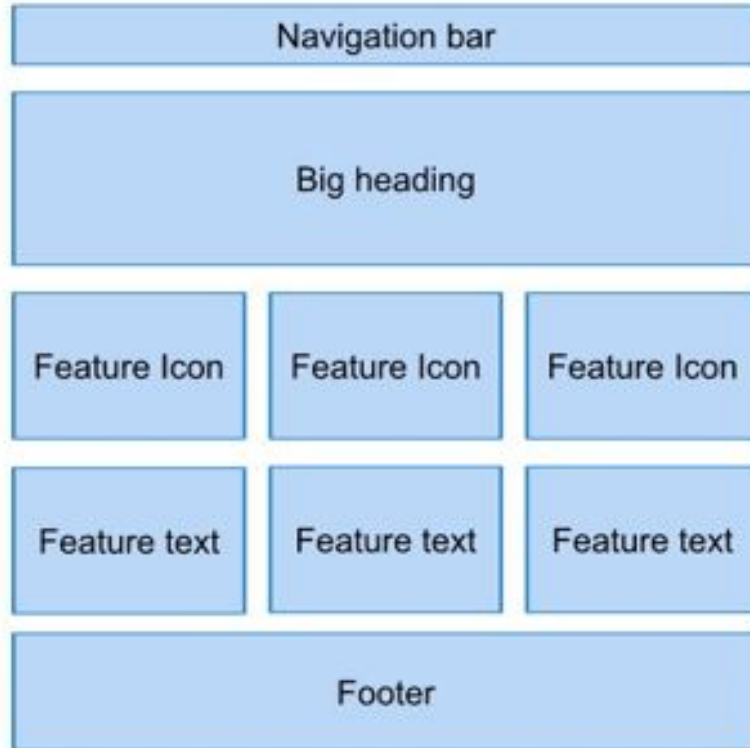
Tables

- The same HTML elements can now be used with a better style.
- There are default classes provided in Bootstrap for HTML Table.
- Some examples are:
 - `.table`
 - `.table table-striped`
 - `.table table-hover`
 - `.table table-active`

More Styling

- There are a lot of elements which can be used from the **documentation** of Bootstrap.
- Do check it at:
<https://getbootstrap.com/docs/5.3/getting-started/introduction/>
- You can style:
 - Text
 - Tables
 - Forms
 - Buttons
 - Drop Downs
 - Navigations
 - ...

Class Activity



That's all for today...!

