Python Programming

Day 17: *Introduction to Web Programming*

1

Introduction to Front-end Framework

Bootstrap is the most popular and powerful **front-end** (HTML, CSS, and JS) **framework** for faster and easier responsive web development.

Bootstrap framework is made up of a **bootstrap.css** file and **bootstrap.js** file that depends on **jquery** to run.
The following HTML elements are required to be placed in the head section of the HTML file
```
<link href="css/bootstrap.min.css" rel="stylesheet">
<script rel="script" src="js/jquery.min.js' "></script>
<script rel="script" src="js/bootstrap.js' "></script>
```

Bootstrap - Containers

Use **class** **.container** to wrap a page's content and easily center the content's as shown below.

```
<div class = "container">
 ...
</div>
```

Note that, due to padding and fixed widths, containers are **not nestable** by default. i.e. A container element cannot be within another container element

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Bootstrap Grid System

Grid systems are used for creating page layouts through a series of rows and columns that house your content.

Bootstrap includes a responsive, mobile first fluid grid system that appropriately scales up to **12 columns** as the device or viewport size increases.

Bootstrap Grid System

Here's how the Bootstrap grid system works

❖ **Rows** must be placed within a **.container** class for proper alignment and padding.

❖ Use **rows** to create **horizontal groups of columns**

❖ **Content** should be placed **within the columns**, and only columns may be the immediate children of rows.

❖ Grid columns are created by specifying the number of **twelve available columns** you wish to span. For example, three equal columns would use three .col-xs-4.

Bootstrap Grid System

Basic structure of Bootstrap grid

```
<div class = "container">

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


</div>


<div class = "container">
    ....
</div>
```

Bootstrap - Navbar

Navbars are responsive 'meta' components that serve as navigation headers for your application or site.

Navbars **collapse** in mobile views and become horizontal as the available viewport width increases.

Bootstrap - Navbar

To create a default navbar

❖ Add the **classes .navbar, .navbar-default** to the **<nav>** tag.

❖ Add a header class **.navbar-header** to the **<div>** element. Include an **<a>** element with **class navbar-brand**. This will give the text a slightly larger size. This could represents a **logo** for the site.

❖ To add **links** to the navbar, simply add an unordered list with the **classes of .nav, .navbar-nav**.

Bootstrap - Navbar

Navbar Sample

```html
<nav class = "navbar navbar-default" >

    <div class = "navbar-header">
      <a class = "navbar-brand" href = "#">Python School</a>
    </div>


    <div>
      <ul class = "nav navbar-nav">
        <li class = "active"><a href = "#">iOS</a></li>
        <li><a href = "#">Android</a></li>
      </ul>
    </div>

</nav>
```
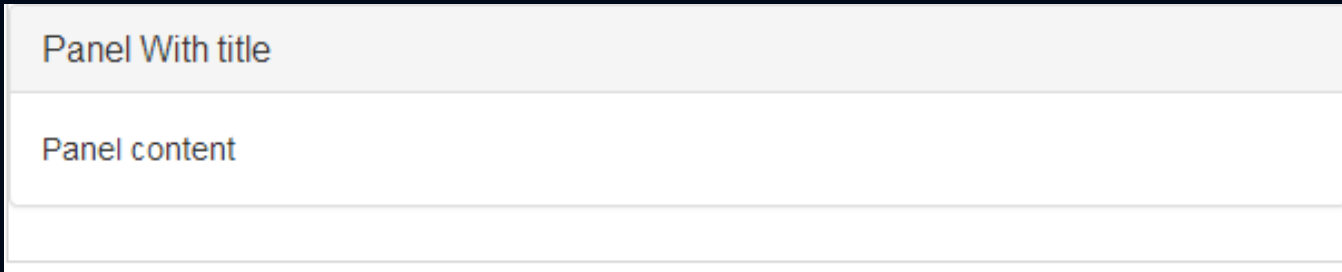
Bootstrap - Panels

Panel components are used when you want to put your **HTML elements in a box.**

Use **.panel-heading class** to easily add a heading container to your panel.

Use any **<h1>-<h6> with a .panel-title class** to add a pre-styled heading

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Bootstrap - Panels

Panel With title

Panel content

```html
<div class = "panel panel-default">
    <div class = "panel-heading">
      <h3 class = "panel-title">
        Panel With title
      </h3>
    </div>


    <div class = "panel-body">
      Panel content
    </div>
</div>
```

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Bootstrap - Buttons

Bootstrap provides some **options** to style **buttons**, which are summarized in the following table

Class	Description
btn	Default/ Standard button.
btn-primary	Provides extra visual weight and identifies the primary action in a set of buttons.
btn-success	Indicates a successful or positive action.
btn-info	Contextual button for informational alert messages.
btn-warning	Indicates caution should be taken with this action.
btn-danger	Indicates a dangerous or potentially negative action.
btn-link	Deemphasize a button by making it look like a link while maintaining button behavior.

Bootstrap - Buttons

`<button type = "button" class = "btn btn-default">Default Button</button>`

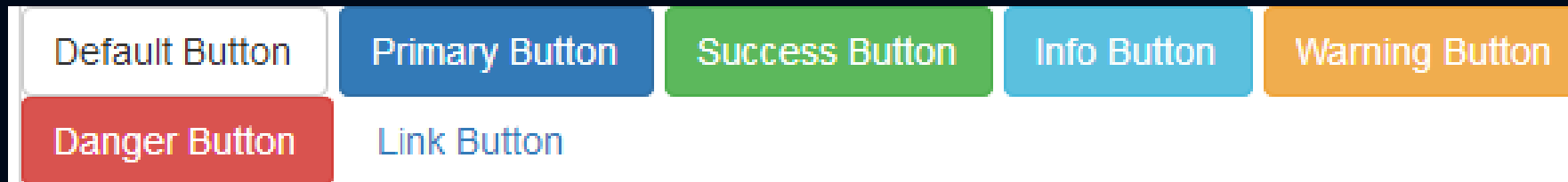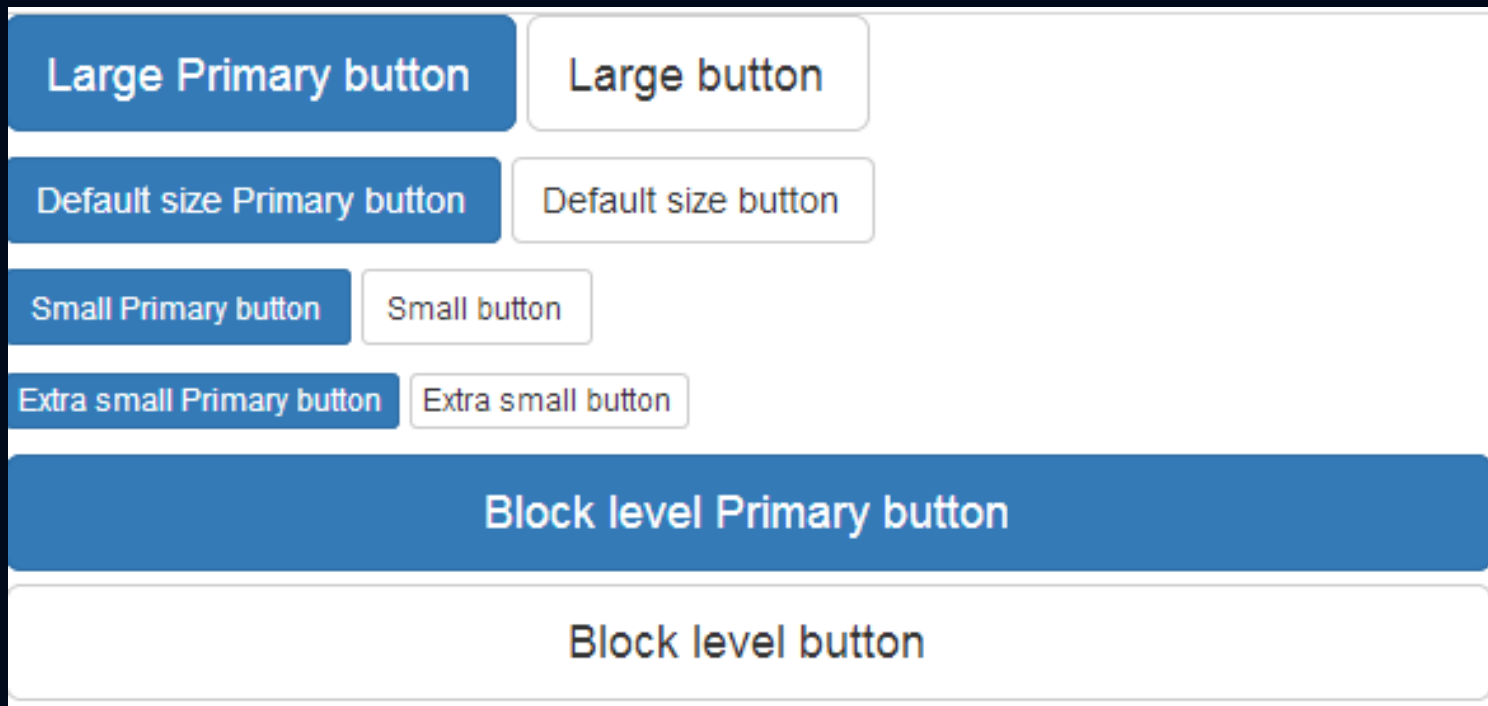`<button type = "button" class = "btn btn-primary">Primary Button</button>`

`<button type = "button" class = "btn btn-success">Success Button</button>`

`<button type = "button" class = "btn btn-info">Info Button</button>`

`<button type = "button" class = "btn btn-warning">Warning Button</button>`

`<button type = "button" class = "btn btn-danger">Danger Button</button>`

`<button type = "button" class = "btn btn-link">Link Button</button>`

Bootstrap - Button Size

Class	Description
.btn-lg	This makes the button size large.
.btn-sm	This makes the button size small.
.btn-xs	This makes the button size extra small.
.btn-block	This creates block level buttons—those that span the full width of a parent.

Exercise 1:

Apply Bootstrap styles and component to the 2 HTML pages created in activity 1&2.

Next Lecture ...

Python Programming

Day 18: *Introduction to Django Framework*