Learning Bootstrap 5

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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
- Bootstrap uses mobile-first styles as part of their core framework and the CSS adjusts to phones, tablets, and desktops.
- It can easily be included in your html file:

<!-- Latest compiled and minified CSS -->

<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/css/bootstrap.min.css" rel="stylesheet">

<!-- Latest compiled JavaScript -->

<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/js/bootstrap.bundle.min.js"></script>

Bootstrap Containers

- Bootstrap requires a containing element to wrap site contents, there are 2 options:
  - .container – responsive fixed width container (max-width will change on different screen sizes)
  - .container-fluid – full width container, spanning the entire width of the viewport (width is always 100%)

  - Use padding, margins and borders to make the containers look better:

<div class="container p-5 my-5 bg-dark text-white">

Bootstrap Grid

- The grid supports up to 12 columns, which can each span a certain amount of columns.
- The columns will automatically size themselves to fit the window width:

<div class="row">

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

- You can create unequal columns:

```
<div class="row">
  <div class="col-sm-4">.col-sm-4</div>
  <div class="col-sm-8">.col-sm-8</div>
</div>
```

Text/Typography
- BS auto styles HTML heading and paragraph elements.
- You can use the class="h1" to "h6" to style other elements as headings
- '.display-1' through '.display-6' are classes that stand out more than normal headings
- <small>, <mark>, <abbr>, <blockquote>, <dl>, <code>, <kbd> and <rep> among other override the styles on the default HTML/CSS elements

Colors
- BS has classes for different colored text, background, text background, etc.
  - The classes for text colors are: .text-muted, .text-primary, .text-success, .text-info, .text-warning, .text-danger, .text-secondary, .text-white, .text-dark, .text-body (default body color/often black) and .text-light
  - The classes for background colors are: .bg-primary, .bg-success, .bg-info, .bg-warning, .bg-danger, .bg-secondary, .bg-dark and .bg-light.
  - The .text-bg-*color (i.e.. success, dark, etc.)* allows you to select a background color and it automatically gives a good text color that will be visible

Tables
- BS allows tables to be formatted in different ways without having to do any extra CSS styling. Just add something like:

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

Images
- BS lets you display images with rounded corners, circle display or thumbnails, by using the appropriate class:
  - .rounded
  - .rounded-circle
  - .img-thumbnail
- You can align images with:
  - .float-start
  - .float-end
  - .mx-auto, .d-block (margin auto and display block together center the item)

- Enable fluid sizing:
  - .img-fluid

Alerts

- You can create <div> elements with the .alert class which draw attention to the element.
- Use the appropriate color to style the alert element
  - alert-success, alert-info, etc.
- To close the alert message, add an .alert-dismissible class to the alert container. Then add class="btn-close" and data-bs-dismiss="alert" to a link or a button element (when you click on this the alert box will disappear).
- .fade and .show will add animation affects to the alert

Buttons

- Buttons can be styled similarly with the .btn and .btn-*color* classes.
- These can be used on <button>, <a>, and <input> elements.
- .btn-outline-*color* adds a hover-over effect
- .btn-lg and .btn-sm can adjust the size of the buttons
- .btn-block can make a button span multiple rows
- .active and .disabled can change the appearance of the buttons as well
  - Links must use the .disabled class
- You can group buttons together in horizontal or vertical groups
  - Put multiple buttons into a <div> of .btn-group
  - You can use this in combination with .dropdown-menu

```
<div class="btn-group">
  <button type="button" class="btn btn-primary dropdown-toggle" data-bs-toggle="dropdown">Sony</button>
  <div class="dropdown-menu">
    <a class="dropdown-item" href="#">Tablet</a>
    <a class="dropdown-item" href="#">Smartphone</a>
  </div>
 </div>
```

- You can add spinners to buttons:

```
<button class="btn btn-primary">
 <span class="spinner-border spinner-border-sm"></span>
 Loading..
</button>
```

Progress indicators
- Some elements can be added to show loading progress:
  - .progress-bar

- o   .progress-bar-striped
- o   .progress-bar-animated
- o   .spinner-border
- o   .spinner-grow

Lists

List Groups
- Adds basic styling to an unordered list
  - o   .list-group
  - o   .list-group-horiztonal <!-- for horizontal styling -->
- And its
  - o   .list-group-item
  - o   .list-group-item-action
  - o   .list-group-item-*color* <!-- to add contextual colors -->
- Add basic styling to an ordered list
  - o   .list-group-numbered
- Add badges to the list elements with .badge and some helper classes:

```
<li class="list-group-item d-flex justify-content-between align-items-center">
  Inbox
  <span class="badge bg-primary rounded-pill">12</span>
</li>
```

Dropdowns
- A dropdown menu is a toggleable button that displays a list underneath it

```
<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>
```

- You can add a dropdown divider to separate menu items:

```
<li><hr class="dropdown-divider"></hr></li>
```

- You can add headers to the sub menus:

```
<li><h5 class="dropdown-header">Dropdown header 1</h5></li>
```

Navigation and NavBars
- Create a horizontal menu of links:
  - o   .nav to <ul>, .nav-item to <li>, .nav-link to <a>
- Create a vertical menu of links, add .flex-column to
- Create tabs or pills with .nav-tabs class or .nav-pills class
- Make them toggleable by setting .active to the default active class, then add the .data-bs-toggle="pill" or "tab" to each tab

- For NavBars, you can use the .navbar and .navbar-expand-sm classes for the <ul>: see examples ([Bootstrap 5 Navigation Bars (w3schools.com)](#))
- Bootstrap supports adding images, buttons, forms, and dropdowns to Navigation bars. You can also make collapsable, fixed, and sticky navbars

Pagination – Page Navigation
- You can create navigation between pages using an <ul> with .pagination, and <li> with .page-item and .active for the active page.

```
<ul class="pagination">
  <li class="page-item"><a class="page-link" href="#">Previous</a></li>
  <li class="page-item"><a class="page-link" href="#">1</a></li>
  <li class="page-item active"><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="#">Next</a></li>
</ul>
```

Collapsing Content
- To toggle the show/hide large amounts of content with a button or link, you can add .collapse to the <div> container. Then, have a button use the properties data-bs-toggle="collapse" and data-bs-target="#idName".
- Ex: [W3Schools Tryit Editor](#)

Carousel
- Used to create a slideshow for cycling elements
- [Bootstrap 5 Carousel (w3schools.com)](#)

Modal
- Used to create a dialog/popup window overlaying the current page
- [Bootstrap 5 Modal (w3schools.com)](#)
- Offcanvas is similar to modal, but often used to pull up a side menu
- [Bootstrap 5 Offcanvas (w3schools.com)](#)

Tooltips
- To create a tooltip, add the data-bs-toggle="tooltip" attribute to an element and use the title attribute to specify the text that should be displayed inside the tooltip.
- Tooltips must be initialized with the following JavaScript:

```
<script>
var tooltipTriggerList = [].slice.call(document.querySelectorAll('[data-bs-toggle="tooltip"]'))
var tooltipList = tooltipTriggerList.map(function (tooltipTriggerEl) {
  return new bootstrap.Tooltip(tooltipTriggerEl)
})
</script>
```

- Popovers are like tooltips but can contain more content

Bootstrap utilities
- A collection of classes that can style elements without CSS:
  Borders
    - .border
    - .border-0 to 5 //width
    - .border-top-0 //specify width of 1 side
    - .border-top //add only that border
    - .border-*color*
    - .rounded
    - .rounded-top //or bottom, start, end
    - .roudned-circle //or pill
  Spacing and positioning
    - .float-start, .float-end, and .clear-fix //for floating elements left, right or ending float
    - BS 4 and 5 uses flexbox instead of float
      - .d-flex
      - .d-inline-flex
      - .flex-row and .flex-row-reverse
      - .flex-column and .flex-column-reverse
      - .flex fill – fills remaining space
    - .mx-auto //adds left and right margins to center align
    - .w-25 //25% width, can do 25, 50, 75, 100, auto; or .mw-auto
    - ^same for .h for height
    - Use .m and .p for margin and padding, and add .t, .b, .s, .e, .x, .y to specify side
      - Ex: mt-4 = margin-top to size 4 (1.5rem)
  Appearance
    - .visible, .invisible
    - .text-*colors (colors are primary, muted, important, success, warning, danger, info, secondary, white, dark, body and light*)
    - .bg-*colors*
    - data-bs-theme="dark" (enable dark mode)
      - add to <html> element for entire document
      - or add it to individual components

Forms
- BS styles forms text labels and inputs using:
  - .form-control - class for <input> and <textarea>
  - .form-control-color
  - .form-label – adds padding to label elements
- Checkboxes
  - .form-check – add to <div> containing -check-input/label
  - .form-check-input – check boxes
  - .form-check-label – label
- Radio buttons -similar to Checkboxes, but add type="radio" and .form-check-input to <input>
- Toggle Switches
  - .form-check and .form-switch to the <div>
  - .form-check-input and type="checkbox" to the <input>

- Select Menus – single or multiple select
    - .form-select for the <select> element
    - Add 'multiple' property to <select> for multi-select
    - Use <option> elements nested inside <select>
        - value="default1" to give the <option> a value
- Range (Slider)
    - .form-range for <input>
- Form Validation
    - Adds notification to the user when they don't fill out a field
    - [Bootstrap 5 Form Validation (w3schools.com)](https://www.w3schools.com)