

Lab 03: *Bootstrap*

Frontend

Portfolio Site

Bootstrap

Requires: Chrome Browser

Table of Content: Portfolio site in Bootstrap v5

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End	10 minutes	Concluding Notes Summary and Submission notes	36
Homework	n/a	Create your own Portfolio Use Bootstrap/Responsive CSS to make a portfolio	

Lab Introduction

Prerequisites

HTML (See Lab 1). Software Requirements: Chrome browser, any code editor/IDE.

Motivation

Learn to use Bootstrap to quickly prototype Responsive web designs.

Goal

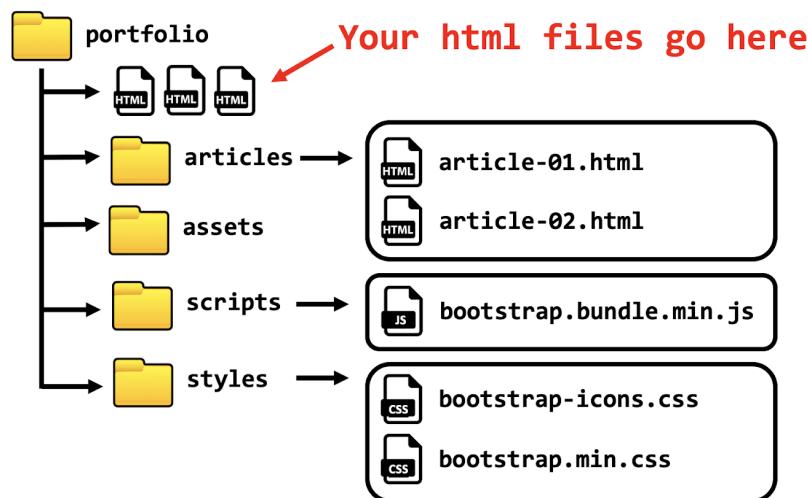
Build a responsive portfolio where you can share information about you and your skills.

Learning Objectives

- Import Bootstrap into a HTML document
- Bootstrap for colors, text, spacing
- Bootstrap for aligning: rows, columns, flex
- Cards & Card groups
- Carousel with Indicators and Controls
- Collapsible Navbar

Project Architecture:

Start this project by downloading the starter files from github. See the project structure below.



Download Starter files:

<https://github.com/scalemaited/portfolio-bootstrap/archive/master.zip>

Concepts

Bootstrap (Styling Framework)

Quickly design and customize responsive mobile-first sites with Bootstrap, the world's most popular front-end open source toolkit, featuring responsive grid system, extensive pre-built components, and powerful JavaScript plugins.

- **Colors:** Bootstrap defines colors using context naming: primary (*blue*), success (*green*), info (*blue-green*), danger (*red*), warning (*yellow*), muted (*gray*), light (*white*), dark (*black*)).
- **Icons:** Bootstrap includes a free, high quality, open source icon library with nearly 1,200 icons. For more info: <https://icons.getbootstrap.com/>
- **Components:** Bootstrap defines many components to contain & style HTML elements such as containers, cards, rows, carousels, navbars, and more.
- **Grid:** Bootstrap has a powerful, yet easy to use grid system to layout HTML elements in responsive ways. HTML elements must be grouped into a container component to use the grid system. Developers may define multiple breakpoints for reordering the HTML elements based on viewport sizes.
- **Using Bootstrap:** Bootstrap is applied to HTML elements using predefined class labels.
 - **Head:** Link the Bootstrap CSS file to the HTML head element
 - **Body:** Link the Bootstrap JS file to the bottom of the HTML body element

Responsive Web Design

Responsive Web Design is about using HTML and CSS to automatically resize, hide, shrink, or enlarge, a website, to make it look good on all devices (desktops, tablets, and phones):

- **Landscape mode:** Viewport's width > height. Typical viewing mode in desktops/laptops
 - **Portrait mode:** Viewport's height > width. Typical viewing mode in tablets/smartphones
-

Example Portfolios

Several examples of well designed portfolios exist online. Below is a site dedicated to showing the best!

Examples: <https://www.awwwards.com/websites/portfolio/>

Goal 0: Designing an Online Portfolio

'Approach' → Plan phase

The motivation behind building a portfolio is to share information about yourself and your skills with the public. Anything and everything that you create can be shared on your portfolio from creative writing, musical compositions, art illustrations, coding projects, blog articles. It's your opportunity to share all of your works with everyone.

'Apply' → Do phase

Step 1: Determine the categories (sections) of content in your portfolio

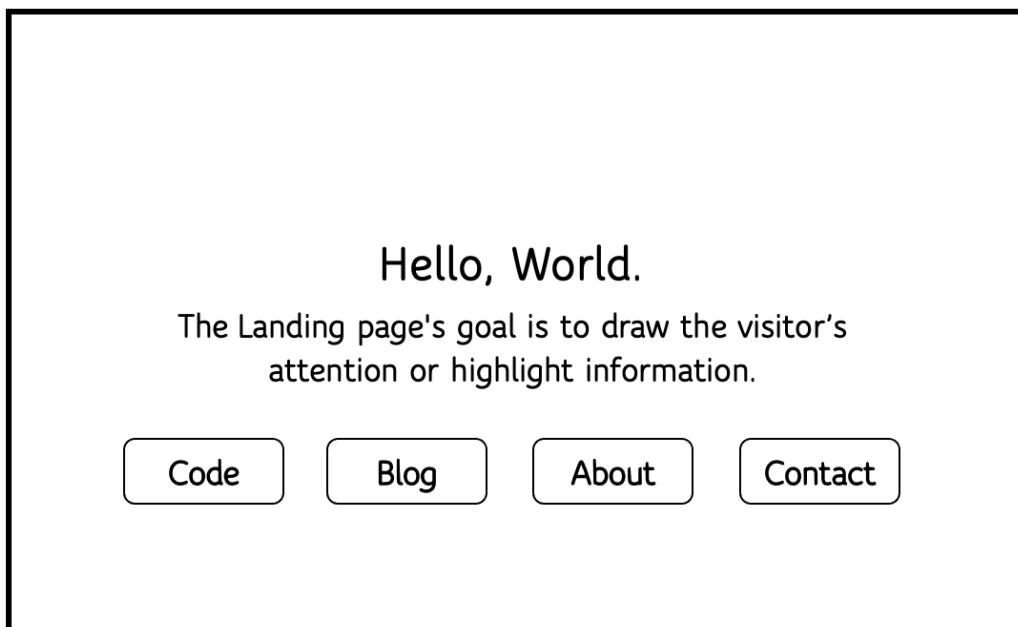
Identify and organize your personal projects into sections where you can effectively highlight them within your portfolio. In this lab we will have five sections

- **Landing:** serves as the introduction of your portfolio. It should draw a visitor's attention and highlight any important information or news
- **Projects:** contains information relating to all of your coding projects with links to the source code to github or links to online demos
- **Blog:** contains articles written by you regarding topics you're interested in. Ideally, your projects from your projects section should all have a companion article discussing your motivations and approaches for their design and implementation (i.e. developer diary).
- **About:** contains personal information about you and your skills.
- **Contact:** provides a means for prospective clients or employers to contact

Goal 1: Landing page

'Approach' → Plan phase

The portfolio needs a landing page, so create a HTML file named **index.html** in the portfolio folder



Basic mockups for the landing page.

'Apply' → Do phase

Step 1: Setup HTML Head with links to Bootstrap CSS

```
1 <head>
2   <link rel="icon" href="assets/favicon.png">
3   <title>Your Name</title>
4
5   <!-- Required meta tags -->
6   <meta charset="utf-8">
7   <meta name="viewport" content="width=device-width, initial-scale=1">
8
9   <!-- Bootstrap CSS -->
10  <link rel="stylesheet" href="styles/bootstrap.min.css">
11  <link rel="stylesheet" href="styles/bootstrap-icons.css">
12 </head>
```

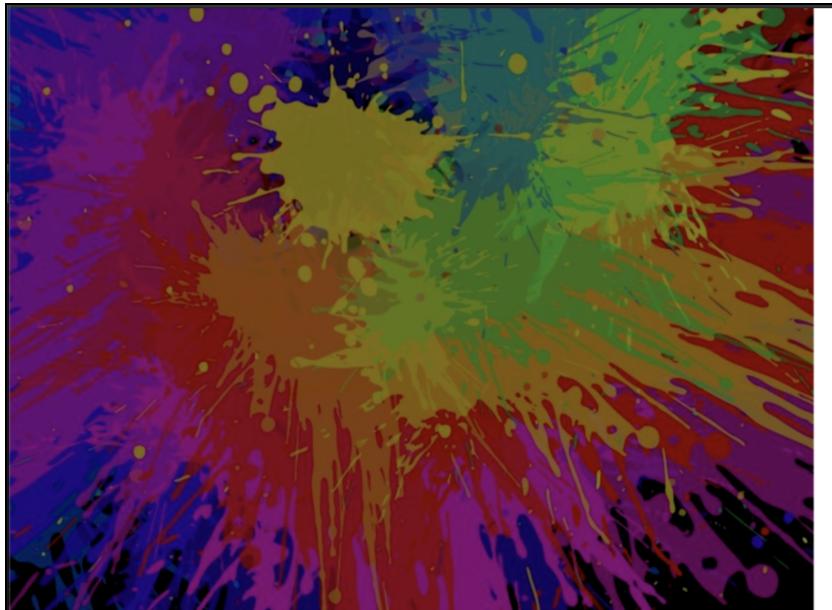
Step 2: Setup HTML Body with all its elements & link the Bootstrap JS

```

1 <body>
2   <!--Background Image-->
3   <img src='assets/bg-image.png'>
4
5   <!--Landing Page-->
6   <div>
7     <h1> Hello, world! </h1>
8     <p> The Landing page's goal is to draw the visitor's attention or highlight information. </p>
9     <div>
10       <button type="button" onclick="document.location='projects.html'">
11         Code
12       </button>
13       <button type="button" onclick="document.location='blog.html'">
14         Blog
15       </button>
16       <button type="button" onclick="document.location='about.html'">
17         About
18       </button>
19       <button type="button" onclick="document.location='contact.html'">
20         Contact
21       </button>
22     </div>
23   </div>
24   <!-- Bootstrap Bundle with Popper -->
25   <script src="scripts/bootstrap.bundle.min.js"></script>
26 </body>

```

Browser Test: open *index.html* in browser after **Step 2**



Hello, world!

The Landing page's goal is to draw the visitor's attention or highlight information.

[Code](#) [Blog](#) [About](#) [Contact](#)

Step 3: Bootstrap classes for full-size background image & white text

```

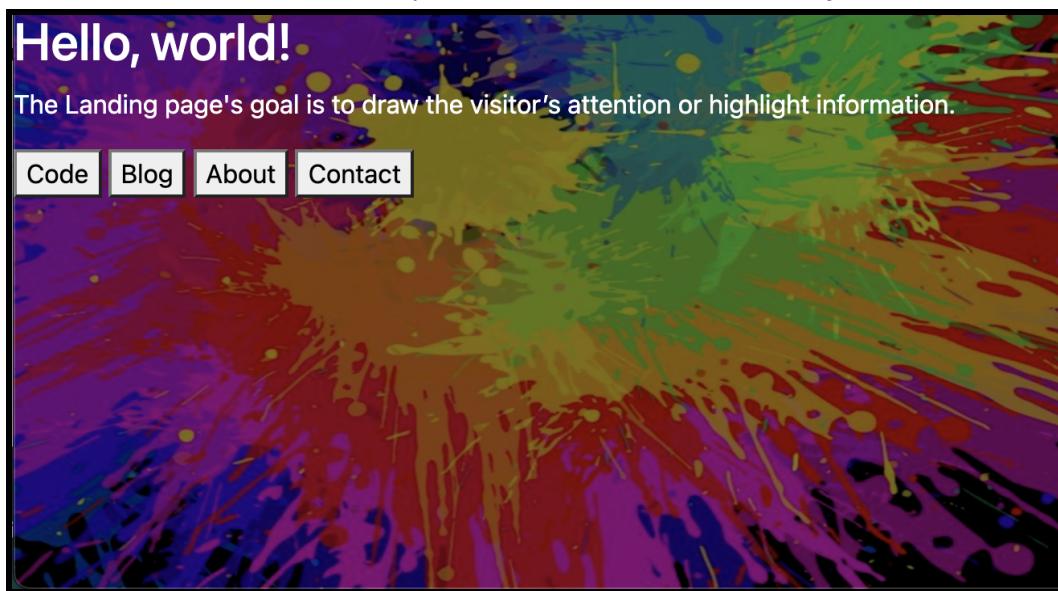
1 <body>
2   <!--Background Image-->
3   <img class="position-absolute w-100 h-100" src='assets/bg-image.png'>
4
5   <!--Landing Page-->
6   <div class="position-relative text-white">
7     <h1> Hello, world! </h1>
8     <p> The Landing page's goal is to draw the visitor's attention or highlight information. </p>
9     <div>
10       <button type="button" onclick="document.location='projects.html'">
11         Code
12       </button>
13       <button type="button" onclick="document.location='blog.html'">
14         Blog
15       </button>
16       <button type="button" onclick="document.location='about.html'">
17         About
18       </button>
19       <button type="button" onclick="document.location='contact.html'">
20         Contact
21       </button>
22     </div>
23   </div>
24   <!-- Bootstrap Bundle with Popper -->
25   <script src="scripts/bootstrap.bundle.min.js"></script>
26 </body>

```

Explanations

position-relative	Relative position adds a z-index on that element, which doesn't work with either static or absolute positioned elements. Even if you don't set a z-index value, this element will now appear on top of any other statically positioned elements.
position-absolute	Absolute position removes an element from the flow of elements on the page. An element with this positioning is not affected by other elements and it doesn't affect other elements.
w-100	Sets width to 100%
h-100	Sets height to 100%
text-white	Sets text color to white

Browser Test: open *index.html* in browser after **Step 3**



Step 4: Bootstrap classes for horizontal centering

```

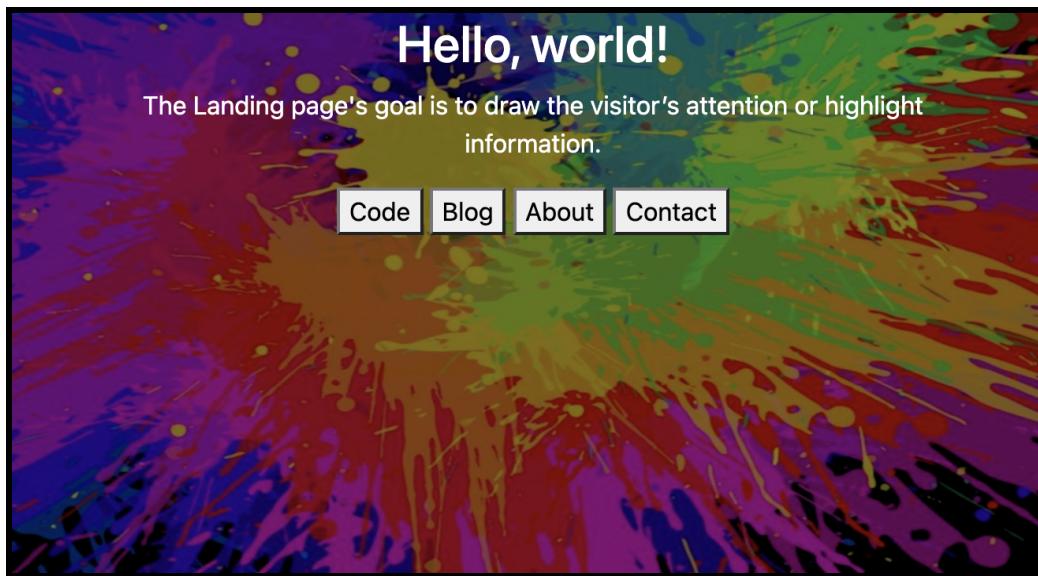
1 <body>
2   <!--Background Image-->
3   <img class="position-absolute w-100 h-100" src='assets/bg-image.png'>
4
5   <!--Landing Page-->
6   <div class="position-relative text-white container text-center">
7     <h1> Hello, world! </h1>
8     <p> The Landing page's goal is to draw the visitor's attention or highlight information. </p>
9     <div>
10       <button type="button" onclick="document.location='projects.html'">
11         Code
12       </button>
13       <button type="button" onclick="document.location='blog.html'">
14         Blog
15       </button>
16       <button type="button" onclick="document.location='about.html'">
17         About
18       </button>
19       <button type="button" onclick="document.location='contact.html'">
20         Contact
21       </button>
22     </div>
23   </div>
24   <!-- Bootstrap Bundle with Popper -->
25   <script src="scripts/bootstrap.bundle.min.js"></script>
26 </body>

```

Explanations

container	Containers are the most basic layout element in Bootstrap and are required when using our default grid system. Containers are used to contain, pad, and center the content within them.
text-center	Centers text

Browser Test: open *index.html* in browser after Step 4



Step 5: Bootstrap classes for vertical centering

```

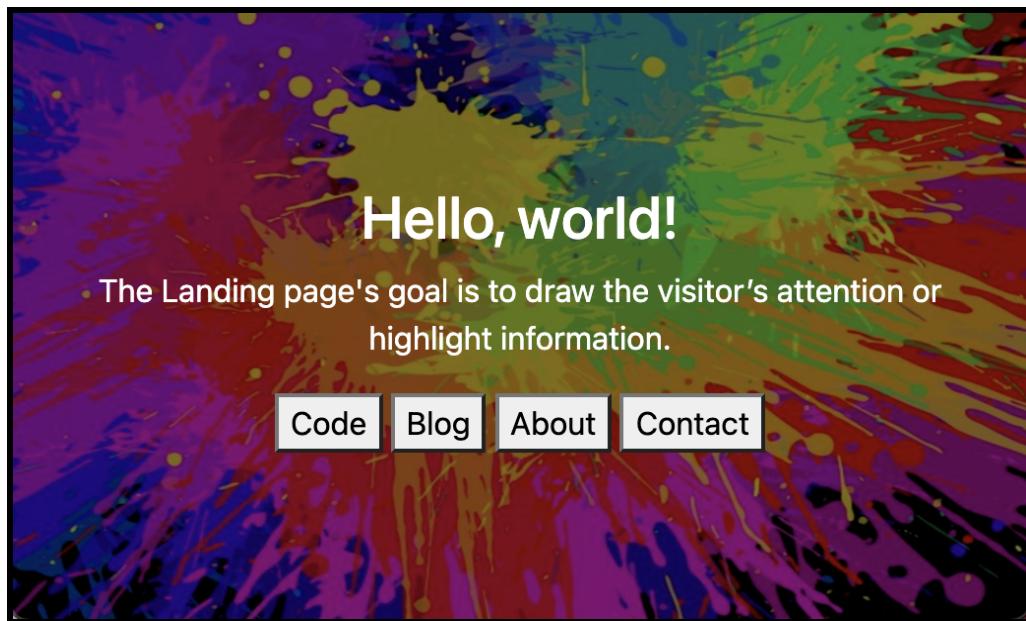
1 <body>
2   <!--Background Image-->
3   <img class="position-absolute w-100 h-100" src='assets/bg-image.png'>
4
5   <!--Landing Page-->
6   <div class="position-relative text-white container text-center h-100 d-flex flex-column justify-content-center">
7     <h1> Hello, world! </h1>
8     <p> The Landing page's goal is to draw the visitor's attention or highlight information. </p>
9     <div>
10       <button type="button" onclick="document.location='projects.html'">
11         Code
12       </button>
13       <button type="button" onclick="document.location='blog.html'">
14         Blog
15       </button>
16       <button type="button" onclick="document.location='about.html'">
17         About
18       </button>
19       <button type="button" onclick="document.location='contact.html'">
20         Contact
21       </button>
22     </div>
23   </div>
24   <!-- Bootstrap Bundle with Popper -->
25   <script src="scripts/bootstrap.bundle.min.js"></script>
26 </body>

```

Explanations

h-100	Sets element's height to 100% of parent's size (i.e. body)
d-flex	Sets flexbox container
flex-column	Sets flex direction into columns (i.e. vertically)
justify-content-center	Vertically centers the contents in flex container

Browser Test: open *index.html* in browser after **Step 5**



Step 6: Bootstrap classes for Buttons & Heading font

```

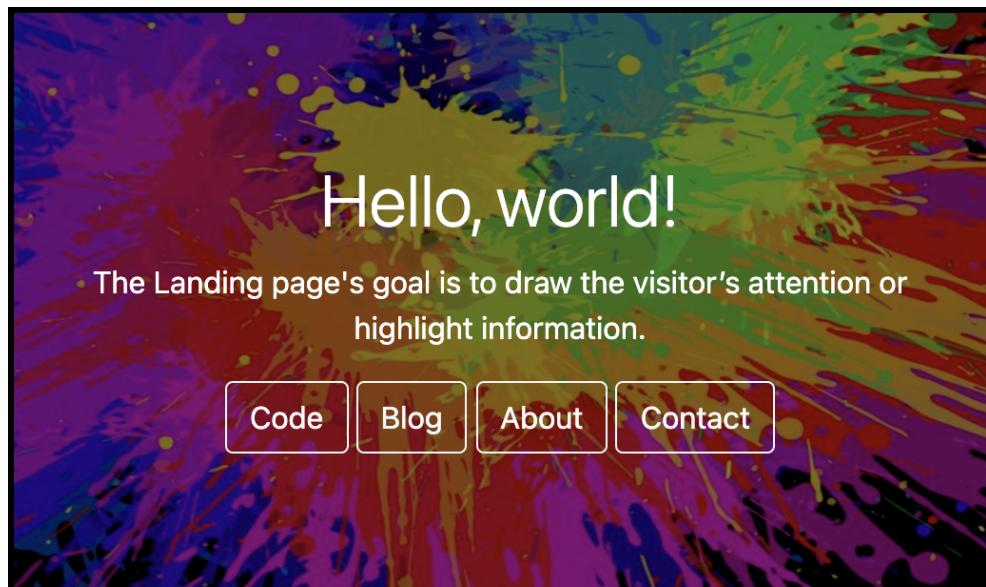
1 <body>
2   <!--Background Image-->
3   <img class="position-absolute w-100 h-100" src='assets/bg-image.png'>
4
5   <!--Landing Page-->
6   <div class="position-relative text-white container text-center h-100 d-flex flex-column justify-content-center">
7     <h1 class="display-4"> Hello, world! </h1>
8     <p> The Landing page's goal is to draw the visitor's attention or highlight information. </p>
9     <div>
10       <button class="btn btn-outline-light" type="button" onclick="document.location='projects.html'">
11         Code
12       </button>
13       <button class="btn btn-outline-light" type="button" onclick="document.location='blog.html'">
14         Blog
15       </button>
16       <button class="btn btn-outline-light" type="button" onclick="document.location='about.html'">
17         About
18       </button>
19       <button class="btn btn-outline-light" type="button" onclick="document.location='contact.html'">
20         Contact
21       </button>
22     </div>
23   </div>
24   <!-- Bootstrap Bundle with Popper -->
25   <script src="scripts/bootstrap.bundle.min.js"></script>
26 </body>

```

Explanations

display-4	A larger, slightly more opinionated heading style. Sizes from 1-6. Thus four is medium sized
btn	Bootstrap class for buttons
btn-outline-light	Bootstrap class for button color. This class outlines button in white with transparent inside

Browser Test: open *index.html* in browser after **Step 6**



Step 7: Bootstrap classes for Icons

```

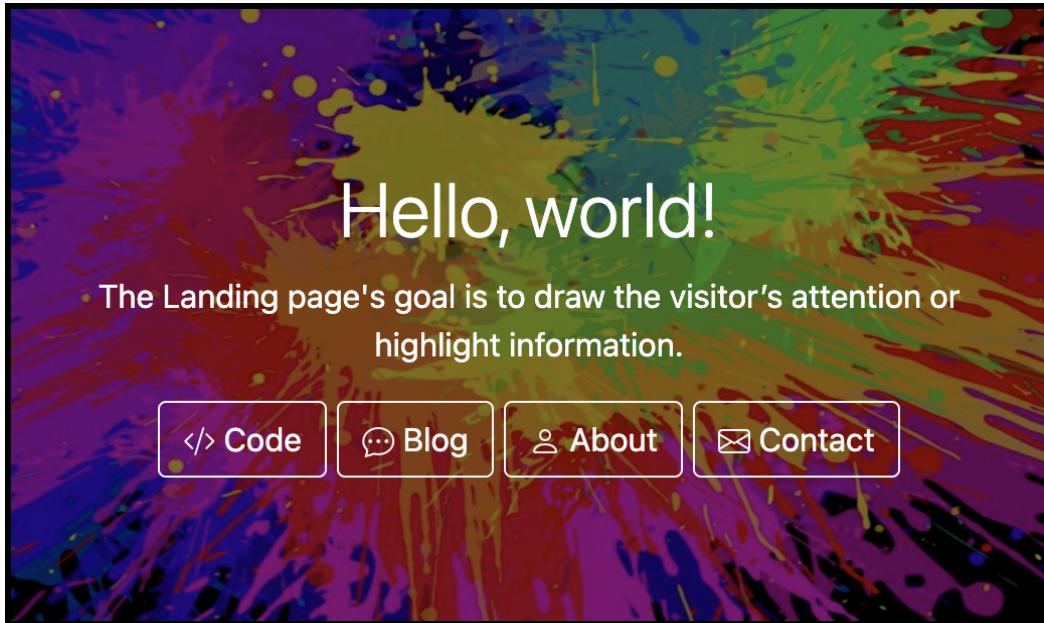
1 <body>
2   <!--Background Image-->
3   <img class="position-absolute w-100 h-100" src='assets/bg-image.png'>
4
5   <!--Landing Page-->
6   <div class="position-relative text-white container text-center h-100 d-flex flex-column justify-content-center">
7     <h1 class="display-4"> Hello, world! </h1>
8     <p> The Landing page's goal is to draw the visitor's attention or highlight information. </p>
9     <div>
10       <button class="btn btn-outline-light" type="button" onclick="document.location='projects.html'">
11         <i class="bi bi-code-slash"></i> Code
12       </button>
13       <button class="btn btn-outline-light" type="button" onclick="document.location='blog.html'">
14         <i class="bi bi-chat-dots"></i> Blog
15       </button>
16       <button class="btn btn-outline-light" type="button" onclick="document.location='about.html'">
17         <i class="bi bi-person"></i> About
18       </button>
19       <button class="btn btn-outline-light" type="button" onclick="document.location='contact.html'">
20         <i class="bi bi-envelope"></i> Contact
21       </button>
22     </div>
23   </div>
24   <!-- Bootstrap Bundle with Popper -->
25   <script src="scripts/bootstrap.bundle.min.js"></script>
26 </body>

```

Explanations

<code>bi</code>	Bootstrap class for bootstrap icons
<code>bi-code-slash</code>	Bootstrap class for the code slash icon
<code>bi-chat-dots</code>	Bootstrap class for the chat message icon
<code>bi-person</code>	Bootstrap class for the person icon
<code>bi-envelope</code>	Bootstrap class for the envelope icon

Browser Test: open `index.html` in browser after Step 7



Note: Test responsiveness by stretching/shrinking the browser window

Goal 2: Contact page

'Approach' → Plan phase

The portfolio needs a Contact page, so create a HTML file named **contact.html** in the portfolio folder

A basic wireframe mockup of a contact form. It features a title 'Contact' at the top, followed by four input fields: 'Name', 'Email', 'Subject', and 'Message'. Each field has a corresponding text input box below it. A 'Submit' button is located at the bottom right of the form area.

Basic mockups for the 'Contact' page.

'Apply' → Do phase

Step 1: Implement HTML <head>, link Bootstrap's CSS

```

1 <head>
2   <link rel="icon" href="assets/favicon.png">
3   <title>Your Name</title>
4
5   <!-- Required meta tags -->
6   <meta charset="utf-8">
7   <meta name="viewport" content="width=device-width, initial-scale=1">
8
9   <!-- Bootstrap CSS -->
10  <link rel="stylesheet" href="styles/bootstrap.min.css">
11  <link rel="stylesheet" href="styles/bootstrap-icons.css">
12 </head>

```

Step 2: Implement HTML <body>, link Bootstrap's JS

```

1 <body>
2   <!--Navbar-->
3   <nav></nav>
4
5   <!--Contact Form-->
6   <div>
7     <h1>
8       <i class="bi bi-envelope"></i> Contact
9     </h1>
10    <hr>
11    <form>
12      <div>
13        <label>Name:</label>
14        <input type="text" id="name" placeholder="Name">
15      </div>
16      <div>
17        <label>Email:</label>
18        <input type="email" id="email" placeholder="Email">
19      </div>
20      <div>
21        <label>Subject:</label>
22        <input type="subject" id="subject" placeholder="Subject">
23      </div>
24      <div>
25        <label>Message:</label>
26        <textarea rows="4" id="message" placeholder="Message"> </textarea>
27      </div>
28      <button type="submit"> Submit </button>
29    </form>
30  </div>
31
32  <!-- Bootstrap Bundle with Popper -->
33  <script src="scripts/bootstrap.bundle.min.js"></script>
34 </body>

```

Explanations

No Bootstrap in this step, only unstyled HTML code

Browser Test: view *contact.html* in browser after **Step 2**

The screenshot shows a simple contact form titled "Contact". The form consists of the following fields:

- Name: A text input field with the placeholder "Name".
- Email: A text input field with the placeholder "Email".
- Subject: A text input field with the placeholder "Subject".
- Message: A large text area with the placeholder "Message".
- Submit: A submit button labeled "Submit".

Step 3: Bootstrap: Background, Text, & Spacing

```

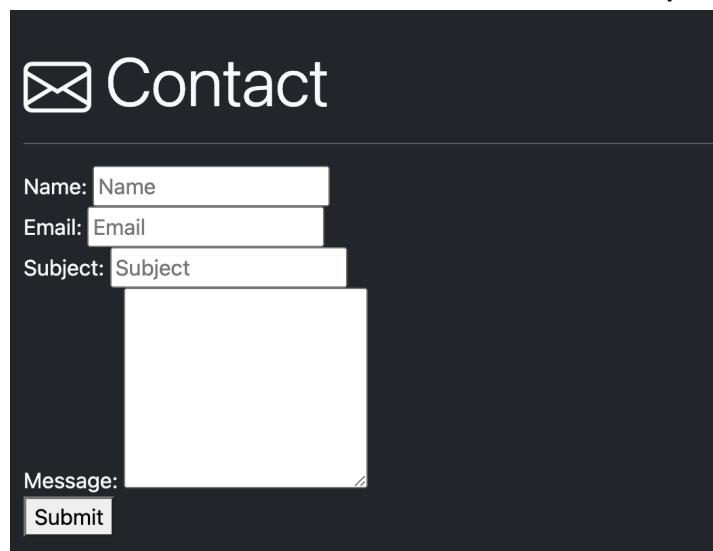
1 <body class="bg-dark text-light">
2   <!--Navbar-->
3   <nav></nav>
4
5   <!--Contact Form-->
6   <div class="container mt-4">
7     <h1 class="display-1">
8       <i class="bi bi-envelope"></i> Contact
9     </h1>
10    <hr>
11    <form>
12      <div>
13        <label>Name:</label>
14        <input type="text" id="name" placeholder="Name">
15      </div>
16      <div>
17        <label>Email:</label>
18        <input type="email" id="email" placeholder="Email">
19      </div>
20      <div>
21        <label>Subject:</label>
22        <input type="subject" id="subject" placeholder="Subject">
23      </div>
24      <div>
25        <label>Message:</label>
26        <textarea rows="4" id="message" placeholder="Message"> </textarea>
27      </div>
28      <button type="submit"> Submit </button>
29    </form>
30  </div>
31
32  <!-- Bootstrap Bundle with Popper -->
33  <script src="scripts/bootstrap.bundle.min.js"></script>
34 </body>

```

Explanations

bg-dark	Bootstrap class for dark background
text-light	Bootstrap class for white text
container	Containers are the most basic layout element in Bootstrap and are required when using its default grid system. Containers are used to contain, pad, and center the content within them.
mt-4	Sets top margin to max, (1 - 4)
display-1	A larger, slightly more opinionated heading style. Sizes from 1-6. Thus 1 is max size

Browser Test: view *contact.html* in browser after **Step 3**



Step 4: Bootstrap: Inputs

```

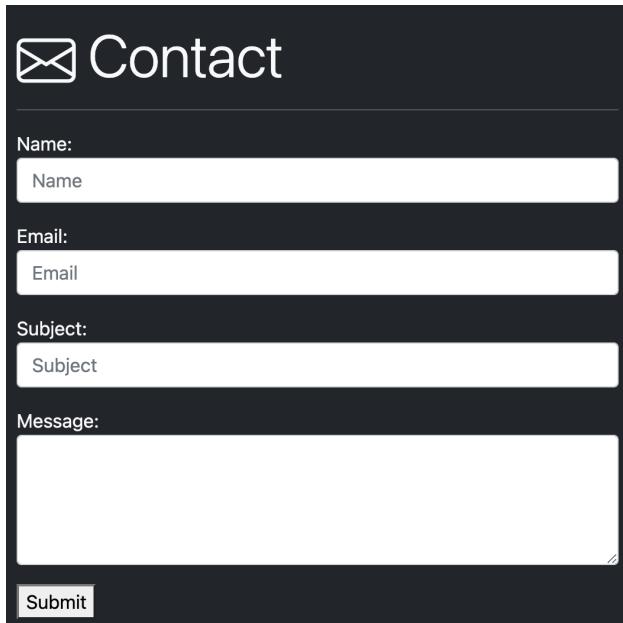
1 <body class="bg-dark text-light">
2   <!--Navbar-->
3   <nav></nav>
4
5   <!--Contact Form-->
6   <div class="container mt-4">
7     <h1 class="display-1">
8       <i class="bi bi-envelope"></i> Contact
9     </h1>
10    <hr>
11    <form>
12      <div class="form-group mb-3">
13        <label>Name:</label>
14        <input class="form-control" type="text" id="name" placeholder="Name">
15      </div>
16      <div class="form-group mb-3">
17        <label>Email:</label>
18        <input class="form-control" type="email" id="email" placeholder="Email">
19      </div>
20      <div class="form-group mb-3">
21        <label>Subject:</label>
22        <input class="form-control" type="subject" id="subject" placeholder="Subject">
23      </div>
24      <div class="form-group mb-3">
25        <label>Message:</label>
26        <textarea class="form-control" rows="4" id="message" placeholder="Message"> </textarea>
27      </div>
28      <button type="submit"> Submit </button>
29    </form>
30  </div>
31
32  <!-- Bootstrap Bundle with Popper -->
33  <script src="scripts/bootstrap.bundle.min.js"></script>
34 </body>

```

Explanations

form-group	Bootstrap class for dark background
form-control	Bootstrap class for white text
mb-2	Sets bottom margin to medium, (1 - 4)

Browser Test: view *contact.html* in browser after Step 4



Step 5: Bootstrap: Button (Style & Align)

```

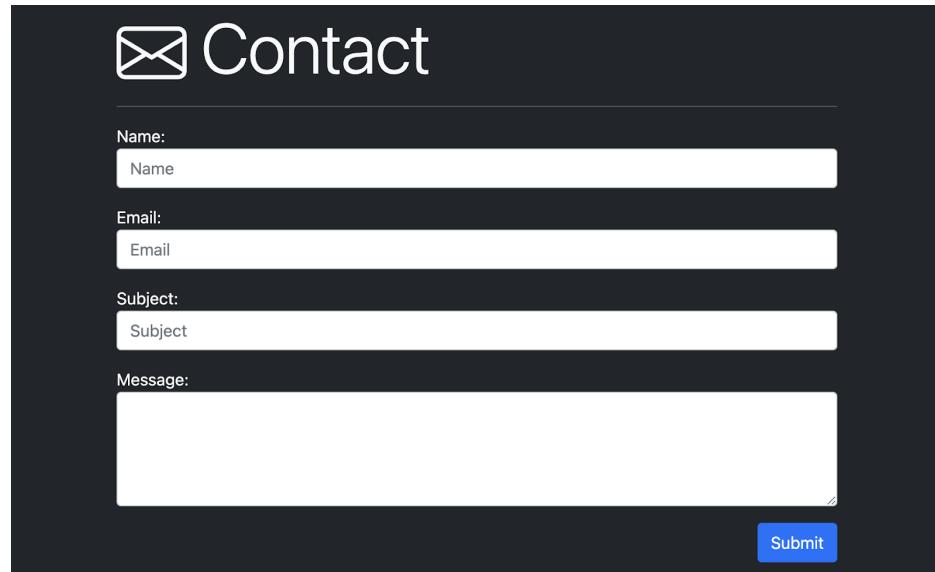
1 <body class="bg-dark text-light">
2   <!--Navbar-->
3   <nav></nav>
4
5   <!--Contact Form-->
6   <div class="container mt-4">
7     <h1 class="display-1">
8       <i class="bi bi-envelope"></i> Contact
9     </h1>
10    <hr>
11    <form>
12      <div class="form-group mb-3">
13        <label>Name:</label>
14        <input class="form-control" type="text" id="name" placeholder="Name">
15      </div>
16      <div class="form-group mb-3">
17        <label>Email:</label>
18        <input class="form-control" type="email" id="email" placeholder="Email">
19      </div>
20      <div class="form-group mb-3">
21        <label>Subject:</label>
22        <input class="form-control" type="subject" id="subject" placeholder="Subject">
23      </div>
24      <div class="form-group mb-3">
25        <label>Message:</label>
26        <textarea class="form-control" rows="4" id="message" placeholder="Message"> </textarea>
27      </div>
28      <button class="btn btn-primary float-end" type="submit"> Submit </button>
29    </form>
30  </div>
31
32  <!-- Bootstrap Bundle with Popper -->
33  <script src="scripts/bootstrap.bundle.min.js"></script>
34 </body>

```

Explanations

btn	Bootstrap class for dark background
btn-primary	Bootstrap class for white text
float-end	Sets bottom margin to medium, (1 - 4)

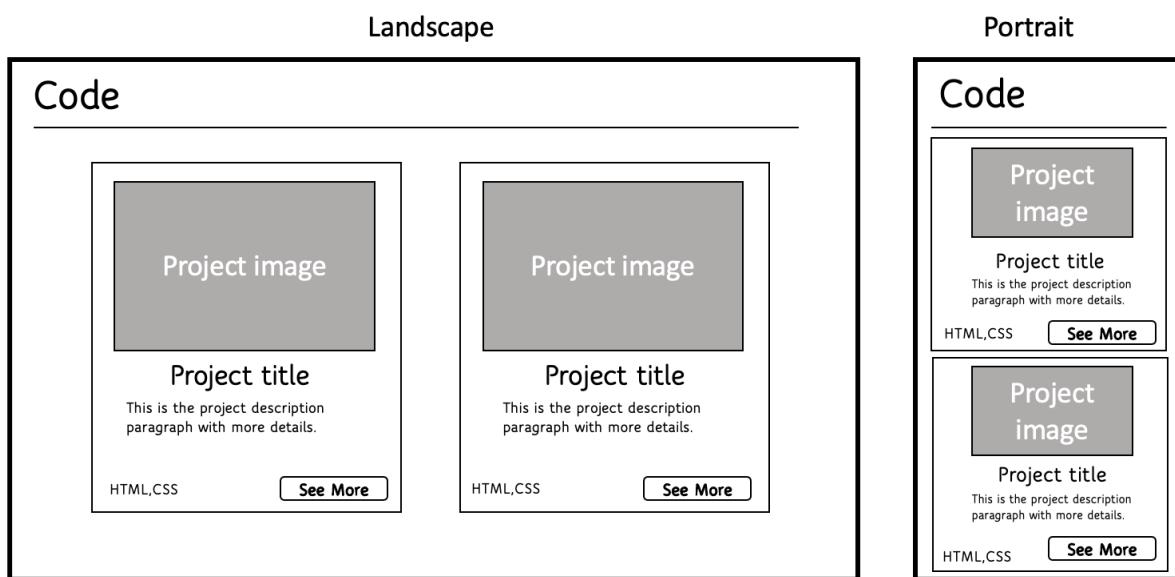
Browser Test: view *contact.html* in browser after Step 5



Goal 3: Projects page

'Approach' → Plan phase

The portfolio needs a Projects page, so create a HTML file named **projects.html** in the portfolio folder



Basic mockups for the 'Projects' page.

'Apply' → Do phase

Step 1: Implement HTML <head>, link Bootstrap's CSS

```

1 <head>
2   <link rel="icon" href="assets/favicon.png">
3   <title>Your Name</title>
4
5   <!-- Required meta tags -->
6   <meta charset="utf-8">
7   <meta name="viewport" content="width=device-width, initial-scale=1">
8
9   <!-- Bootstrap CSS -->
10  <link rel="stylesheet" href="styles/bootstrap.min.css">
11  <link rel="stylesheet" href="styles/bootstrap-icons.css">
12 </head>

```

Step 2: Implement HTML <body>, link Bootstrap's JS

```

1 <body>
2   <!--Navbar-->
3   <nav> </nav>
4
5   <!--Coding Projects Portfolio-->
6   <div>
7     <h1>
8       <i class="bi bi-code-slash"></i> Code
9     </h1>
10    <hr>
11
12    <!-- START: Card Group -->
13    <div>
14      <!-- START: Card 1 -->
15      <div>
16        <!-- Card Header -->
17        <div>
18          
19        </div>
20        <!-- Card Body -->
21        <div>
22          <h3> Code Project Title 1 </h3>
23          <p>
24            This is a wider card with supporting text as a lead-in to additional content.
25            This content is a little bit longer.
26          </p>
27        </div>
28        <!-- Card Footer -->
29        <div>
30          <small> HTML, CSS, JS </small>
31          <button> See More </button>
32        </div>
33      </div>
34      <!-- END:Card 1 -->
35
36      <!-- START:Card 2 -->
37      <!-- END:Card 2 -->
38
39    </div>
40    <!-- END:Card Group -->
41  </div>
42  <!-- Bootstrap Bundle with Popper -->
43  <script src="scripts/bootstrap.bundle.min.js"></script>
44</body>

```

Explanations

No Bootstrap in this step, only unstyled HTML code

Browser Test: open [projects.html](#) in browser after **Step 2**

</> Code

Code Project Title 1

This is a wider card with supporting text as a lead-in to additional content. This content is a little bit longer.

HTML, CSS, JS [See More](#)

Step 3: Bootstrap: Background, Text, & Spacing

```

1 <body class="bg-primary">
2   <!--Navbar-->
3   <nav> </nav>
4
5   <!--Coding Projects Portfolio-->
6   <div class="container">
7     <h1 class="display-1 mt-4">
8       <i class="bi bi-code-slash"></i> Code
9     </h1>
10    <hr>
11
12    <!-- START: Card Group -->
13    <div>
14      <!-- START: Card 1 -->
15      <div>
16        <!-- Card Header -->
17        <div>
18          
19        </div>
20        <!-- Card Body -->
21        <div>
22          <h3> Code Project Title 1 </h3>
23          <p>
24            This is a wider card with supporting text as a lead-in to additional content.
25            This content is a little bit longer.
26          </p>
27        </div>
28        <!-- Card Footer -->
29        <div>
30          <small> HTML, CSS, JS </small>
31          <button> See More </button>
32        </div>
33      </div>
34      <!-- END:Card 1 -->
35
36      <!-- START:Card 2 -->
37      <!-- END:Card 2 -->
38
39    </div>
40    <!-- END:Card Group -->
41  </div>
42  <!-- Bootstrap Bundle with Popper -->
43  <script src="scripts/bootstrap.bundle.min.js"></script>
44</body>

```

Explanations

<code>bg-primary</code>	Bootstrap class for blue background
<code>container</code>	Containers are the most basic layout element in Bootstrap and are required when using its default grid system. Containers are used to contain, pad, and center the content within them.
<code>mt-4</code>	Sets top margin to max, (1 - 4)
<code>display-1</code>	A larger, slightly more opinionated heading style. Sizes from 1-6. Thus 1 is max size

Browser Test: view `projects.html` in browser after **Step 3**



Step 4: Bootstrap: Cards & Card Groups

```

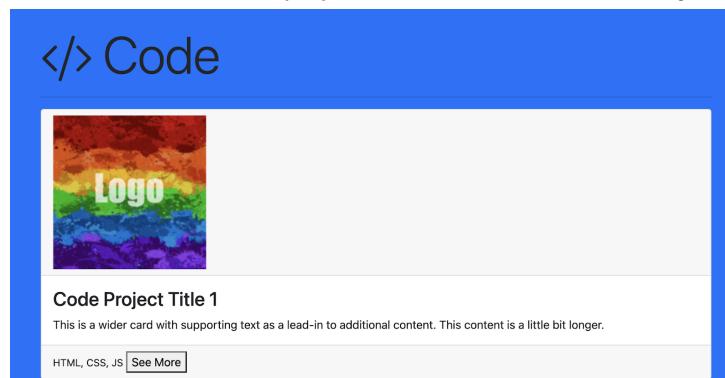
1 <body class="bg-primary">
2   <!--Navbar-->
3   <nav> </nav>
4
5   <!--Coding Projects Portfolio-->
6   <div class="container">
7     <h1 class="display-1 mt-4">
8       <i class="bi bi-code-slash"></i> Code
9     </h1>
10    <hr>
11
12    <!-- START: Card Group -->
13    <div class="card-group">
14      <!-- START: Card 1 -->
15      <div class="card">
16        <!-- Card Header -->
17        <div class="card-header">
18          
19        </div>
20        <!-- Card Body -->
21        <div class="card-body">
22          <h3 class="card-title">Code Project Title 1 </h3>
23          <p class="card-text">
24            This is a wider card with supporting text as a lead-in to additional content.
25            This content is a little bit longer.
26          </p>
27        </div>
28        <!-- Card Footer -->
29        <div class="card-footer">
30          <small>HTML, CSS, JS</small>
31          <button>See More</button>
32        </div>
33      </div>
34      <!-- END:Card 1 -->
35
36      <!-- START:Card 2 -->
37      <!-- END:Card 2 -->
38
39    </div>
40    <!-- END:Card Group -->
41  </div>
42  <!-- Bootstrap Bundle with Popper -->
43  <script src="scripts/bootstrap.bundle.min.js"></script>
44</body>

```

Explanations

card	A flexible and extensible content container.	card-group	Responsively groups multiple cards together
card-header	Top portion of a card	card-title	Heading text of a card
card-body	Main portion of a card	card-text	Standard text of a card
card-footer	Bottom portion of a card		

Browser Test: view *projects.html* in browser after **Step 4**



Step 5: Bootstrap: Card - Text, Image, Spacing

```

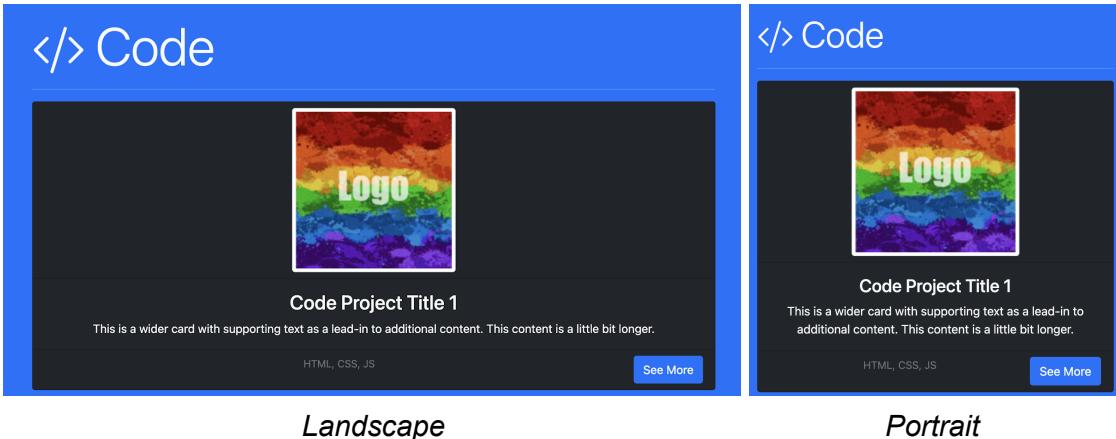
1 <body class="bg-primary text-light">
2   <!--Navbar-->
3   <nav> </nav>
4
5   <!--Coding Projects Portfolio-->
6   <div class="container">
7     <h1 class="display-1 mt-4">
8       <i class="bi bi-code-slash"></i> Code
9     <hr>
10
11    <div class="card-group gap-2">
12      <!-- START: Card 1 -->
13      <div class="card bg-dark text-center">
14        <div class="card-header">
15          
16        </div>
17        <div class="card-body">
18          <h3 class="card-title">Code Project Title 1 </h3>
19          <p class="card-text">
20            This is a wider card with supporting text as a lead-in to additional content.
21            This content is a little bit longer.
22          </p>
23        </div>
24        <div class="card-footer">
25          <small class="text-muted">HTML, CSS, JS</small>
26          <button class="btn btn-primary float-end">See More</button>
27        </div>
28      </div>
29      <!-- END:Card 1 -->
30      <!-- START:Card 2 -->
31      <!-- END:Card 2 -->
32    </div>
33    <!-- END:Card Group -->
34  </div>
35  <!-- Bootstrap Bundle with Popper -->
36  <script src="scripts/bootstrap.bundle.min.js"></script>
37
38 </body>

```

Explanations

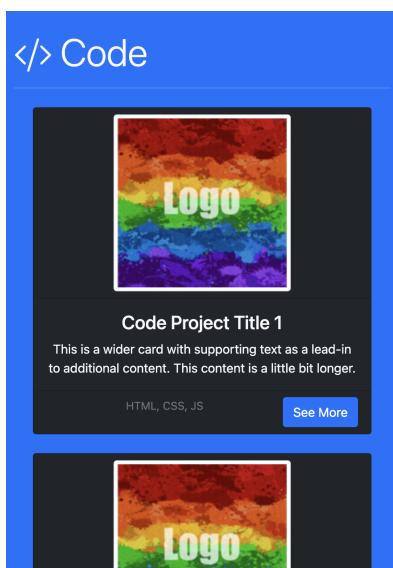
gap-2	Sets gap between items in group (1-4)	img-thumbnail	Shapes image to a thumbnail with border
btn	Bootstrap class for button	text-center	Centers text in html container
btn-primary	Sets button color to blue	text-muted	Sets text color to gray
float-end	Right aligns an element	text-light	Sets text color to white

Browser Test: view *projects.html* in browser after **Step 5**

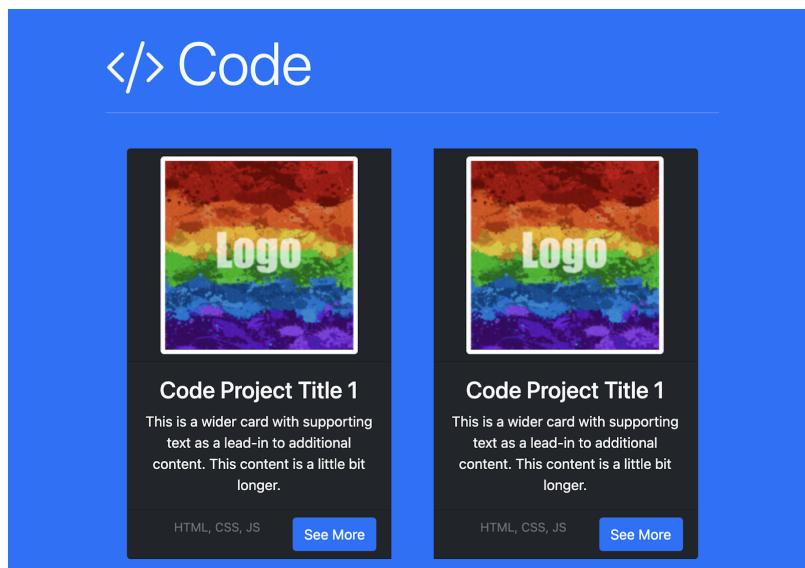


'Assess' → Test phase

Try copying the HTML code for the 'Card 1' in between the comments for Card 2 (lines 31-32) & test to see if two cards responsively render into the browser in both landscape/portrait modes



Portrait

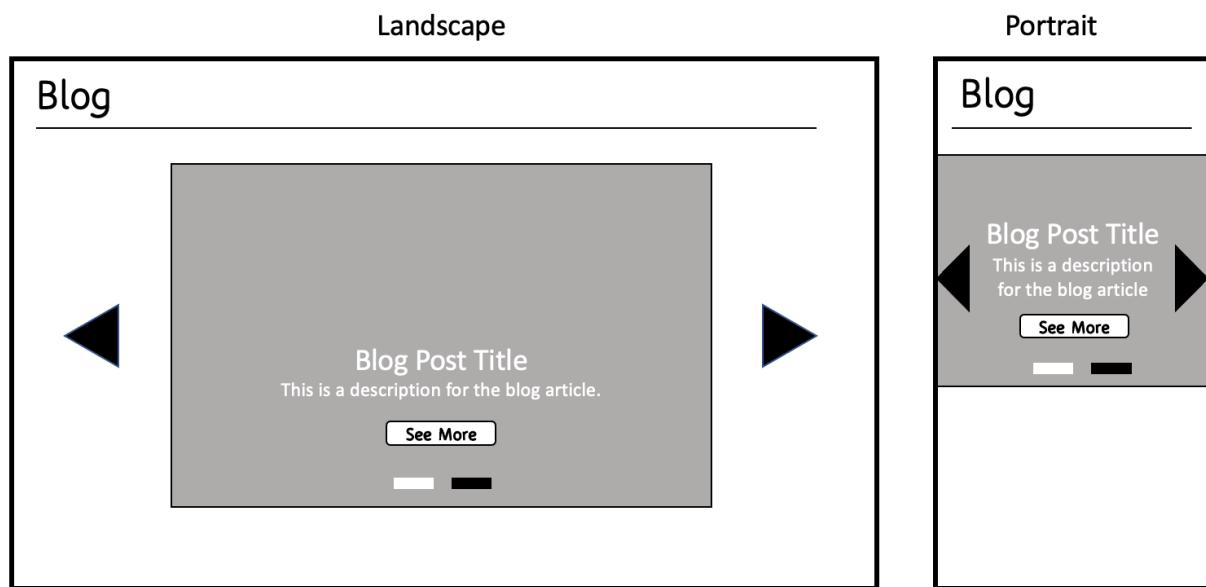


Landscape

Goal 4: Blog page

'Approach' → Plan phase

The portfolio needs a Blog page, so create a HTML file named **blog.html** in the portfolio folder



Basic mockups for the 'Blog' page.

'Apply' → Do phase

Step 1: Implement HTML <head>, link Bootstrap's CSS

```

1 <head>
2   <link rel="icon" href="assets/favicon.png">
3   <title>Your Name</title>
4
5   <!-- Required meta tags -->
6   <meta charset="utf-8">
7   <meta name="viewport" content="width=device-width, initial-scale=1">
8
9   <!-- Bootstrap CSS -->
10  <link rel="stylesheet" href="styles/bootstrap.min.css">
11  <link rel="stylesheet" href="styles/bootstrap-icons.css">
12 </head>
```

Step 2: Implement HTML <body>, link Bootstrap's JS

```

1 <body class="bg-danger text-light">
2   <!--Navbar-->
3   <nav></nav>
4   <!--Blog page-->
5   <div class="container mt-4">
6     <h1>
7       <i class="bi bi-chat-dots"></i> Blog
8     </h1>
9     <hr>
10    </div>
11
12  <!--Carousel -->
13  <div id="blog-carousel">
14    <!-- Carousel Body -->
15    <div>
16      <!-- Slide 1 -->
17      <div id="slide-1">
18        
19        <div>
20          <h5> Blog Post 1 </h5>
21          <p> Sentence describing topic for Blog Article 1 </p>
22          <button onclick="document.location='articles/article-01.html'"> Read More </button>
23        </div>
24      </div>
25      <!-- Slide 2 -->
26      <div id="slide-2">
27        
28        <div>
29          <h5>Blog Post 2</h5>
30          <p> Sentence describing topic for Blog Article 2 </p>
31          <button onclick="document.location='articles/article-02.html'">Read More</button>
32        </div>
33      </div>
34    </div>
35  </div>
36
37  <!-- Bootstrap Bundle with Popper -->
38  <script src="scripts/bootstrap.bundle.min.js"></script>
39 </body>

```

Explanations

No NEW Bootstrap in this step

Browser Test: open *blog.html* in browser after Step 2



Step 3: Bootstrap: Carousel

```

1 <!--Carousel-->
2 <div id="blog-carousel" class="carousel slide" data-bs-ride="carousel" data-bs-interval="1000">
3   <!-- Carousel Body -->
4   <div>
5     <!-- Slide 1 -->
6     <div id="slide-1" class="carousel-item active">
7       
8       <div class="carousel-caption">
9         <h5> Blog Post 1 </h5>
10        <p> Sentence describing topic for Blog Article 1 </p>
11        <button onclick="document.location='articles/article-01.html'"> Read More </button>
12      </div>
13    </div>
14    <!-- Slide 2 -->
15    <div id="slide-2" class="carousel-item">
16      
17      <div class="carousel-caption">
18        <h5> Blog Post 2 </h5>
19        <p> Sentence describing topic for Blog Article 2 </p>
20        <button onclick="document.location='articles/article-02.html'"> Read More </button>
21      </div>
22    </div>
23  </div>
24</div>

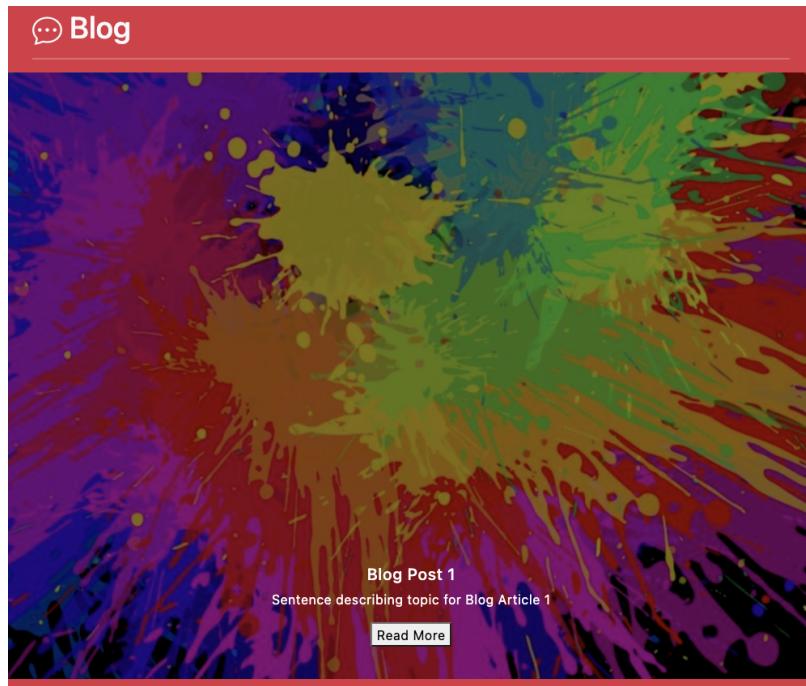
```

Note: This code excerpt is only showing the carousel portion of the HTML <body>

Explanations

carousel	Container for carousel items	carousel-caption	Text overlay on top slide image
slide	Transition type for carousel	data-bs-ride	Executes carousel
carousel-item	A slide within the carousel	data-bs-interval	Sets the interval between slides
active	The active slide in the carousel		

Browser Test: open *blog.html* in browser after Step 3



Note: The slides should transition every 1 second

Step 4: Bootstrap: Carousel Indicators

```

1 <!-- Carousel -->
2 <div id="blog-carousel" class="carousel slide" data-bs-ride="carousel" data-bs-interval="1000">
3     <!-- Carousel Menu -->
4     <ol class="carousel-indicators">
5         <li data-bs-target="#blog-carousel" data-bs-slide-to="0" class="active"></li>
6         <li data-bs-target="#blog-carousel" data-bs-slide-to="1"></li>
7     </ol>
8     <!-- Carousel Body -->
9     <div class="carousel-inner text-center">
10        <!-- Slide 1 -->
11        <div id="slide-1" class="carousel-item active">
12            
13            <div class="carousel-caption">
14                <h5> Blog Post 1 </h5>
15                <p> Sentence describing topic for Blog Article 1 </p>
16                <button onclick="document.location='articles/article-01.html'"> Read More </button>
17            </div>
18        </div>
19        <!-- Slide 2 -->
20        <div id="slide-2" class="carousel-item">
21            
22            <div class="carousel-caption">
23                <h5> Blog Post 2 </h5>
24                <p> Sentence describing topic for Blog Article 2 </p>
25                <button onclick="document.location='articles/article-02.html'"> Read More </button>
26            </div>
27        </div>
28    </div>
29 </div>

```

Note: This code excerpt is only showing the carousel portion of the HTML <body>

Explanations

carousel-indicators	List of carousel indices	text-center	Center inline elements in container
carousel-inner	Inner body of carousel	data-bs-target	Targets indicator onto a HTML element
active	The active indicator in carousel	data-bs-slide-to	Indicator highlight at this index number

Browser Test: open *blog.html* in browser after Step 4



Step 5: Bootstrap: Carousel Controls

```

1 <!-- Carousel -->
2 <div id="blog-carousel" class="carousel slide" data-bs-ride="carousel" data-bs-interval="1000">
3   <!-- Carousel Menu -->
4   <ol class="carousel-indicators">
5     <li data-bs-target="#blog-carousel" data-bs-slide-to="0" class="active"></li>
6     <li data-bs-target="#blog-carousel" data-bs-slide-to="1"></li>
7   </ol>
8   <!-- Carousel Body -->
9   <div class="carousel-inner text-center">
10    <!-- Slide 1 -->
11    <div id="slide-1" class="carousel-item active">
12      
13      <div class="carousel-caption">
14        <h5> Blog Post 1 </h5>
15        <p> Sentence describing topic for Blog Article 1 </p>
16        <button onclick="document.location='articles/article-01.html'"> Read More </button>
17      </div>
18    </div>
19    <!-- Slide 2 -->
20    <div id="slide-2" class="carousel-item">
21      
22      <div class="carousel-caption">
23        <h5> Blog Post 2 </h5>
24        <p> Sentence describing topic for Blog Article 2 </p>
25        <button onclick="document.location='articles/article-02.html'"> Read More </button>
26      </div>
27    </div>
28  </div>
29  <!-- Carousel Controls -->
30  <a class="carousel-control-prev" href="#blog-carousel" role="button" data-bs-slide="prev">
31    <i class="carousel-control-prev-icon"></i>
32  </a>
33  <a class="carousel-control-next" href="#blog-carousel" role="button" data-bs-slide="next">
34    <i class="carousel-control-next-icon"></i>
35  </a>
36</div>

```

Note: This code excerpt is only showing the carousel portion of the HTML <body>

Explanations

carousel-control-prev	Control to shift to previous	data-bs-slide	data attribute to perform action
carousel-control-next	Control to shift to next		
carousel-control-prev-icon	Left arrow icon for control		
carousel-control-next-icon	Right arrow icon for control		

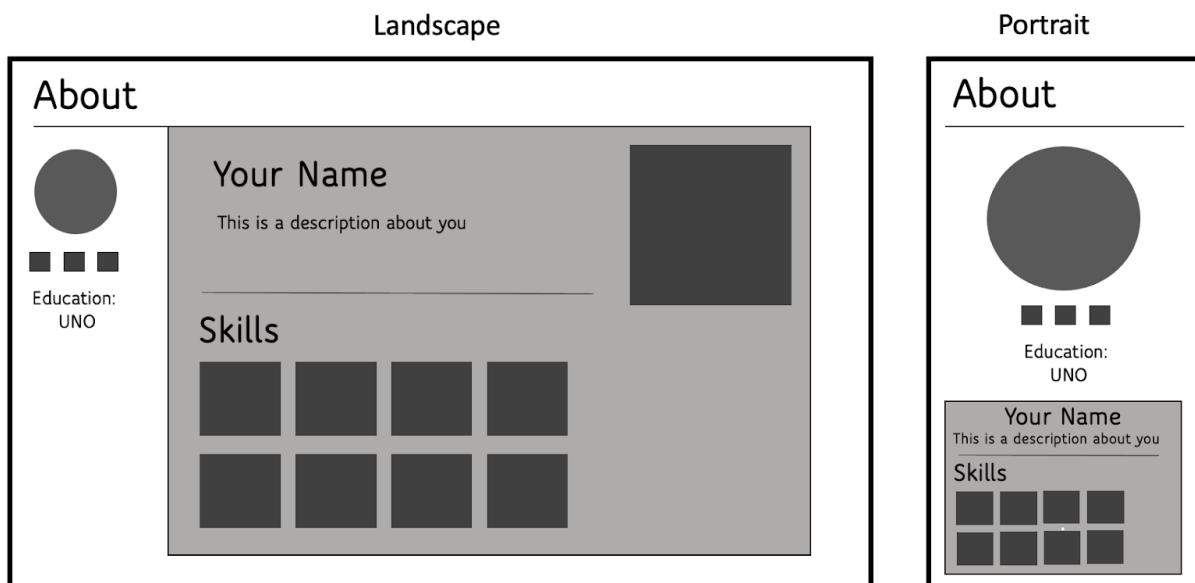
Browser Test: open *blog.html* in browser after Step 5



Goal 5: About page

'Approach' → Plan phase

The portfolio needs an **About** page, so create a HTML file named **about.html** in the portfolio folder



Basic mockups for the 'About' page.

'Apply' → Do phase

Step 1: Implement HTML <head>, link Bootstrap's CSS

```

1 <head>
2   <link rel="icon" href="assets/favicon.png">
3   <title>Your Name</title>
4
5   <!-- Required meta tags -->
6   <meta charset="utf-8">
7   <meta name="viewport" content="width=device-width, initial-scale=1">
8
9   <!-- Bootstrap CSS -->
10  <link rel="stylesheet" href="styles/bootstrap.min.css">
11  <link rel="stylesheet" href="styles/bootstrap-icons.css">
12 </head>

```

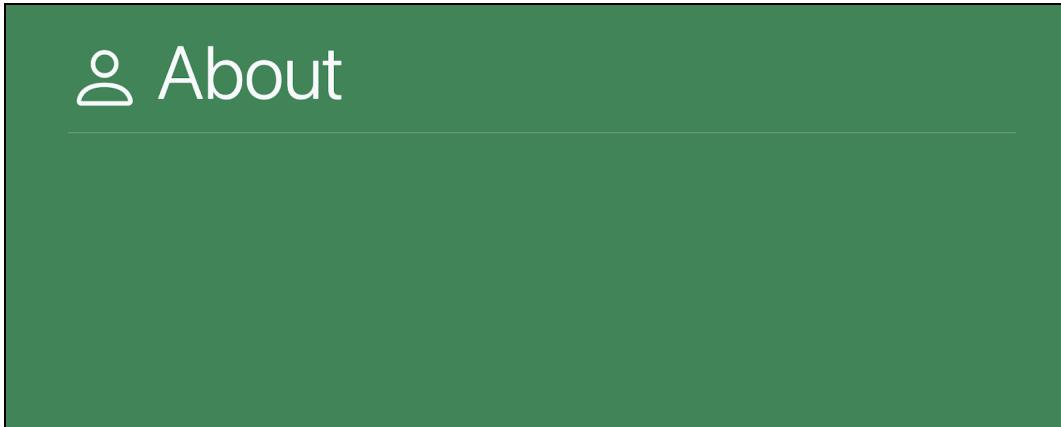
Step 2: Implement HTML <body>, link Bootstrap's JS

```
1 <body class='bg-success text-light'>
2
3     <!-- Navbar -->
4     <nav></nav>
5
6     <!-- 'About' Heading -->
7     <div class='container'>
8         <h1 class='display-1 mt-4'>
9             <i class="bi bi-person"></i> About
10            </h1>
11            <hr>
12        </div>
13
14     <!-- About Me: using Grid & Flex -->
15
16     <!-- Bootstrap Bundle with Popper -->
17     <script src="scripts/bootstrap.bundle.min.js"></script>
18 </body>
```

Explanations

No NEW Bootstrap in this step

Browser Test: open *about.html* in browser after **Step 2**



Step 3: Implement 'About Me' HTML (Without Grid Style)

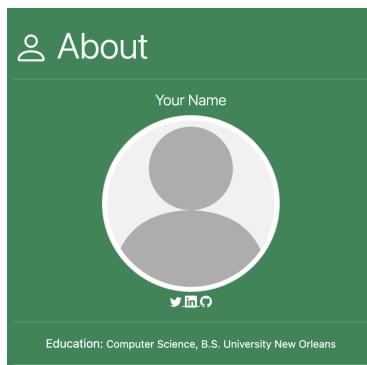
```

1 <!-- About Me: using Grid & Flex -->
2 <div class='container-fluid text-light'>
3
4     <!-- Column 1: Social links & Education -->
5     <div class="text-center">
6         <h4 class="lead"> Your Name </h4>
7         
8         <div>
9             <a href='#' class='text-white'> <i class="bi bi-twitter"></i> </a>
10            <a href='#' class='text-white'> <i class="bi bi-linkedin"></i> </a>
11            <a href='#' class='text-white'> <i class="bi bi-github"></i> </a>
12        </div>
13        <hr>
14        <div>
15            <span> Education: <span>
16                <small> Computer Science, B.S. </small>
17                <small> University New Orleans </small>
18            </div>
19            <hr>
20        </div>
21
22     <!-- Column 2: Name & Skills -->
23     <div class='bg-dark'>
24         <!-- Row 1: Name & Image -->
25         <div>
26             <div>
27                 <h1>Your Name</h1>
28                 <p> This is a statement about me and my skills! </p>
29             </div>
30             <div>
31                 <img class='img-fluid' src='assets/profile-image.png' >
32             </div>
33         </div>
34         <!-- Row 2: Skills -->
35         <hr>
36         <h2 class='display-6'>Skills:</h2>
37         <div>
38             <img src='assets/icon-java.png'>
39             <img src='assets/icon-js.png'>
40             <img src='assets/icon-html5.png'>
41             <img src='assets/icon-css3.png'>
42             <img src='assets/icon-react.png'>
43             <img src='assets/icon-mongodb.png'>
44             <img src='assets/icon-node.webp'>
45             <img src='assets/icon-npm.png'>
46             <img src='assets/icon-passport.png'>
47             <img src='assets/icon-socketio.png'>
48         </div>
49
50     </div>
51 </div>

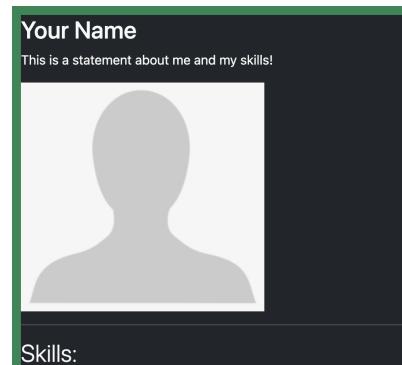
```

Note: This code excerpt is only showing the "Grid" portion of the HTML <body>

Browser Test: open *about.html* in browser after Step 3



Column 1



Column 2

Step 4: Bootstrap: Grid - Rows & Columns

```

1 <!-- Grid & Flex -->
2 <div class='container-fluid text-light row'>
3   <!-- Column 1: Social links & Education -->
4   <div class="text-center col-md-2">
5     <h4 class="lead"> Your Name </h4>
6     
7     <div class="d-flex justify-content-center gap-4 m-4">
8       <a href='#!' class='text-white'> <i class="bi bi-twitter"></i> </a>
9       <a href='#!' class='text-white'> <i class="bi bi-linkedin"></i> </a>
10      <a href='#!' class='text-white'> <i class="bi bi-github"></i> </a>
11    </div>
12    <hr>
13    <div class="d-flex row row-cols-1">
14      <span> Education: </span>
15      <small>Computer Science, B.S.</small>
16      <small class="fst-italic">University New Orleans</small>
17    </div>
18    <hr>
19  </div>
20  <!-- Column 2: Name & Skills -->
21  <div class='bg-dark col-md-10'>
22    <div>
23      <div>
24        <h1>Your Name</h1>
25        <p> This is a statement about me and my skills! </p>
26      </div>
27      <div>
28        <img class='img-fluid' src='assets/profile-image.png' >
29      </div>
30    </div>
31    <hr>
32    <h2 class='display-6'>Skills:</h2>
33    <div class="d-flex row row-cols-5">
34      <img src='assets/icon-java.png'>
35      <img src='assets/icon-js.png'>
36      <img src='assets/icon-html5.png'>
37      <img src='assets/icon-css3.png'>
38      <img src='assets/icon-react.png'>
39      <img src='assets/icon-mongodb.png'>
40      <img src='assets/icon-node.webp'>
41      <img src='assets/icon-npm.png'>
42      <img src='assets/icon-passport.png'>
43      <img src='assets/icon-socketio.png'>
44    </div>
45  </div>
46 </div>

```

Note: This code excerpt is only showing the "Grid" portion of the HTML <body>

Explanations

row	grid container with up to 12 cols	d-flex	set display property to flex
col-md-2	breakpoint at medium size (2/12)	row row-cols-1	row direction, max size is 1 col/row
col-md-10	breakpoint at medium size (10/12)	row row-cols-5	row direction, max size is 5 col/row
justify-content-center	Horizontally center row elements	gap-4	set spacing between flex items

Browser Test: open *about.html* in browser after **Step 4**



Step 5: Bootstrap: Nested Rows/Columns

```

1 <!-- Grid & Flex -->
2 <div class='container-fluid text-light row'>
3   <!-- Column 1: Social links & Education -->
4   <div class="text-center col-md-2">
5     <h4 class="lead"> Your Name </h4>
6     
7     <div class="d-flex justify-content-center gap-4 m-4">
8       <a href='#' class='text-white'> <i class="bi bi-twitter"></i> </a>
9       <a href='#' class='text-white'> <i class="bi bi-linkedin"></i> </a>
10      <a href='#' class='text-white'> <i class="bi bi-github"></i> </a>
11    </div>
12    <hr>
13    <div class="d-flex column row-cols-1 flex-wrap">
14      <span> Education: </span>
15      <small>Computer Science, B.S.</small>
16      <small class="fst-italic">University New Orleans</small>
17    </div>
18    <hr>
19  </div>
20  <!-- Column 2: Name & Skills -->
21  <div class='bg-dark col-md-10'>
22    <div class="row">
23      <div class='col-md-8 col-12'>
24        <h1>Your Name</h1>
25        <p> This is a statement about me and my skills! </p>
26      </div>
27      <div class='col-md-4 d-md-block d-none'>
28        <img class='img-fluid' src='assets/profile-image.png' >
29      </div>
30    </div>
31    <hr>
32    <h2 class='display-6'>Skills:</h2>
33    <div class="d-flex row row-cols-5">
34      <img src='assets/icon-java.png'>
35      <img src='assets/icon-js.png'>
36      <img src='assets/icon-html5.png'>
37      <img src='assets/icon-css3.png'>
38      <img src='assets/icon-react.png'>
39      <img src='assets/icon-mongodb.png'>
40      <img src='assets/icon-node.webp'>
41      <img src='assets/icon-npm.png'>
42      <img src='assets/icon-passport.png'>
43      <img src='assets/icon-socketio.png'>
44    </div>
45  </div>
46 </div>

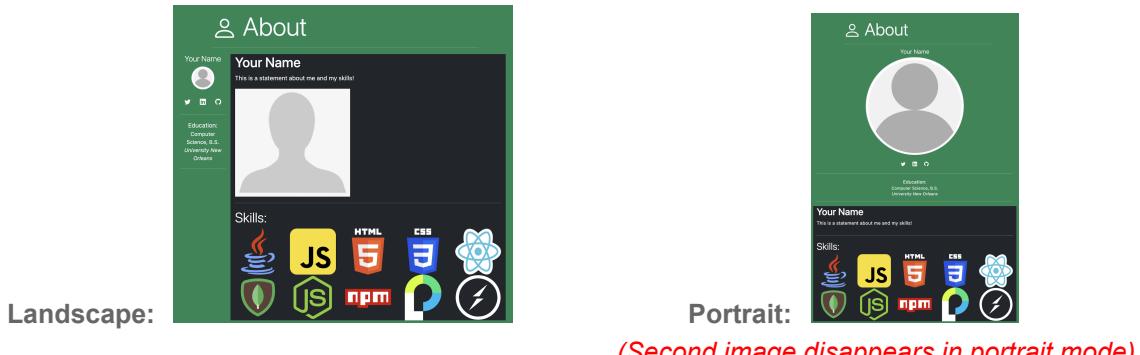
```

Note: This code excerpt is only showing the "Grid" portion of the HTML <body>

Explanations

col-md-8 col-12	varying breakpoints	d-md-block	set display to block-level on medium
col-md-4	breakpoint on medium	d-none	set display to none type otherwise

Browser Test: open *about.html* in browser after Step 5



Goal 6: Navigation Bar (Navbar)

'Approach' → Plan phase

The portfolio needs an **Navbar**, to easily toggle between projects, blog, about, contact pages.

'Apply' → Do phase

Step 1: Bootstrap: Navbar with Branding that links to landing page

```
1 <nav class="navbar navbar-light bg-light container-fluid">
2   <a class="navbar-brand" href="index.html">
3     <i class="bi bi-house"></i> Your Name
4   </a>
5 </nav>
```

Note: Add this code into every page that has an empty `nav` element. (projects, blog, about, contact)

Browser Test: open in browser after Step 1

 Your Name

Click on the house icon and it should link to the landing page

Step 2: Bootstrap: Navbar with List of Links: Projects, Blog, About, Contact

```

1 <nav class="navbar navbar-expand-md navbar-light bg-light container-fluid">
2   <a class="navbar-brand" href="index.html">
3     <i class="bi bi-house"></i> Your Name
4   </a>
5   <ul class="navbar-nav ms-auto">
6     <li class="nav-item">
7       <a class="nav-link" href="projects.html">
8         <i class="bi bi-code-slash"></i> Code
9       </a>
10      </li>
11      <li class="nav-item">
12        <a class="nav-link" href="blog.html">
13          <i class="bi bi-chat-dots"></i> Blog
14        </a>
15      </li>
16      <li class="nav-item">
17        <a class="nav-link" href="about.html">
18          <i class="bi bi-person"></i> About
19        </a>
20      </li>
21      <li class="nav-item">
22        <a class="nav-link" href="contact.html">
23          <i class="bi bi-envelope"></i> Contact
24        </a>
25      </li>
26    </ul>
27 </nav>

```

Note: Add this code into every page that has an empty `nav` element. (projects, blog, about, contact)

Browser Test: open in browser after Step 2

Landscape mode:

⌂ Your Name	getRepository	💬 Blog	👤 About	✉️ Contact
-------------	---------------	--------	---------	------------

Portrait mode:

getRepository	�� Your Name	getRepository	getRepository	getRepository
getRepository	getRepository	getRepository	getRepository	getRepository

Step 3: Bootstrap: Collapsible Navbar

```

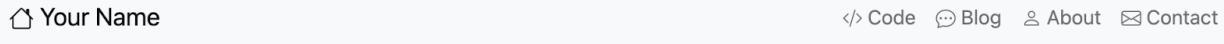
1 <nav class="navbar navbar-expand-md navbar-light bg-light container-fluid">
2   <a class="navbar-brand" href="index.html">
3     <i class="bi bi-house"></i> Your Name
4   </a>
5   <button class="navbar-toggler" data-bs-toggle="collapse" data-bs-target="#navbar-options">
6     <i class="navbar-toggler-icon"></i>
7   </button>
8   <div class="collapse navbar-collapse" id="navbar-options">
9     <ul class="navbar-nav ms-auto">
10       <li class="nav-item">
11         <a class="nav-link" href="projects.html">
12           <i class="bi bi-code-slash"></i> Code
13         </a>
14       </li>
15       <li class="nav-item">
16         <a class="nav-link" href="blog.html">
17           <i class="bi bi-chat-dots"></i> Blog
18         </a>
19       </li>
20       <li class="nav-item">
21         <a class="nav-link" href="about.html">
22           <i class="bi bi-person"></i> About
23         </a>
24       </li>
25       <li class="nav-item">
26         <a class="nav-link" href="contact.html">
27           <i class="bi bi-envelope"></i> Contact
28         </a>
29       </li>
30     </ul>
31   </div>
32 </nav>

```

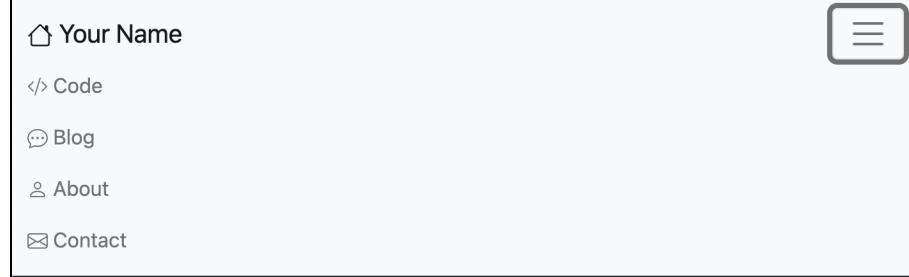
Note: Add this code into every page that has an empty `nav` element. (`projects`, `blog`, `about`, `contact`)

Browser Test: open in browser after Step 3

Landscape mode:



Portrait mode: (collapsed/expanded views)



Conclusions

Final Comments

In this lab you learned to implement a responsive portfolio using Bootstrap. This required using bootstrap's vast collections of predefined classnames, components, and responsive grid systems. This lab covered many bootstrap features such as: colors, fonts, spacings, buttons, inputs, images, containers, cards, card groups, carousel, rows, columns, display properties: d-block, d-flex, d-none

Future Improvements

- Use Javascript to add dynamic logic to your portfolio
- Connect the form to submit to some backend service
- Author your own content, projects, information, and articles onto the portfolio

Lab Submission

Compress your project folder into a zip file and submit on Moodle.

Homework 3:

Create your own responsive portfolio that expresses you, your skills, and contains all of your own designs. Your portfolio should be better than the basic portfolio implemented within this lab.

Homework Bonus:

Showcase bonus. You can receive up to 20 bonus points if your project is outstanding and novel. I'll publish all showcase projects on UNO's web page as a demo for future students. You should cite such projects on your resume.