Exercise 1: Create a Basic Bootstrap 4 Page

Task:

Create a basic HTML page with Bootstrap 4 included. The page should have a navbar, a container with a header, and a paragraph.

Solution:

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Bootstrap 4 Basic Page</title>
  <link href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" rel="stylesheet">
</head>
<body>
  <nav class="navbar navbar-expand-lg navbar-light bg-light">
    <a class="navbar-brand" href="#">Navbar</a>
  </nav>
  <div class="container mt-4">
    <h1 class="display-4">Hello, Bootstrap!</h1>
```

```
    <p class="lead">This is a simple example to get you started with Bootstrap 4.</p>
  </div>
</body>
</html>
```

Exercise 2: Implement the Bootstrap 4 Grid System

Task:

Create a responsive layout with a 3-column grid that changes to 1 column on small devices.

Solution:

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Bootstrap 4 Grid System</title>
  <link href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" rel="stylesheet">
</head>
```

```
<body>
  <div class="container mt-4">
   <div class="row">
     <div class="col-md-4 col-12">
       <div class="p-3 border bg-light">Column 1</div>
     </div>
     <div class="col-md-4 col-12">
       <div class="p-3 border bg-light">Column 2</div>
     </div>
     <div class="col-md-4 col-12">
       <div class="p-3 border bg-light">Column 3</div>
     </div>
   </div>
  </div>
</body>
</html>
```

Exercise 3: Create a Styled Table

Task:

Create a table with Bootstrap 4 classes to add striped rows and make it responsive.

Solution:

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Bootstrap 4 Table</title>
  <link href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" rel="stylesheet">
</head>
<body>
  <div class="container mt-4">
    <div class="table-responsive">
      <table class="table table-striped">
        <thead>
          <tr>
            <th>#</th>
            <th>First Name</th>
            <th>Last Name</th>
            <th>Username</th>
          </tr>
        </thead>
        <tbody>
```

```
      <tr>
        <td>1</td>
        <td>John</td>
        <td>Doe</td>
        <td>@johndoe</td>
      </tr>
      <tr>
        <td>2</td>
        <td>Jane</td>
        <td>Doe</td>
        <td>@janedoe</td>
      </tr>
    </tbody>
  </table>
 </div>
 </div>
</body>
</html>
```

Exercise 4: Create a Form with Validation

Task:

Create a form with Bootstrap 4 that includes validation for required fields.

Solution:

```html
<!DOCTYPE html>
<html lang="en">
<head>
 <meta charset="UTF-8">
 <meta name="viewport" content="width=device-width, initial-scale=1.0">
 <title>Bootstrap 4 Form Validation</title>
 <link href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" rel="stylesheet">
</head>
<body>
 <div class="container mt-4">
   <form class="needs-validation" novalidate>
     <div class="form-group">
       <label for="inputName">Name</label>
       <input type="text" class="form-control" id="inputName" required>
       <div class="invalid-feedback">
         Please provide a name.
       </div>
     </div>
     <div class="form-group">
       <label for="inputEmail">Email</label>
```

```html
    <input type="email" class="form-control" id="inputEmail"
required>
    <div class="invalid-feedback">
     Please provide a valid email.
    </div>
   </div>
   <button type="submit" class="btn btn-
primary">Submit</button>
  </form>
 </div>
 <script src="https://code.jquery.com/jquery-
3.5.1.slim.min.js"></script>
 <script
src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.9.3/dist/u
md/popper.min.js"></script>
 <script
src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/js/bo
otstrap.min.js"></script>
 <script>
  // Example starter JavaScript for disabling form submissions if
there are invalid fields
  (function() {
   'use strict';
   window.addEventListener('load', function() {
    var forms = document.getElementsByClassName('needs-
validation');
```

```javascript
      var validation = Array.prototype.filter.call(forms,
function(form) {

        form.addEventListener('submit', function(event) {

          if (form.checkValidity() === false) {

            event.preventDefault();

            event.stopPropagation();

          }

          form.classList.add('was-validated');

        }, false);

      });

    }, false);

  })();

  </script>

</body>

</html>
```

Exercise 5: Create a Card Component

Task:

Create a Bootstrap 4 card component with a header, body, and footer.

Solution:

```html
<!DOCTYPE html>

<html lang="en">
```

```
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Bootstrap 4 Card</title>
  <link href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" rel="stylesheet">
</head>
<body>
  <div class="container mt-4">
   <div class="card">
    <div class="card-header">
     Card Header
    </div>
    <div class="card-body">
     <h5 class="card-title">Card Title</h5>
     <p class="card-text">This is an example of a card component using Bootstrap 4.</p>
     <a href="#" class="btn btn-primary">Go somewhere</a>
    </div>
    <div class="card-footer">
     Card Footer
    </div>
   </div>
  </div>
```

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

Exercise 6: Create a Navbar with Dropdown

Task:

Create a Bootstrap 4 navbar with a dropdown menu.

Solution:
```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Bootstrap 4 Navbar with Dropdown</title>
  <link href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" rel="stylesheet">
</head>
<body>
  <nav class="navbar navbar-expand-lg navbar-light bg-light">
    <a class="navbar-brand" href="#">Navbar</a>
```

```html
<button class="navbar-toggler" type="button" data-toggle="collapse" data-target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-label="Toggle navigation">
  <span class="navbar-toggler-icon"></span>
</button>
<div class="collapse navbar-collapse" id="navbarNav">
  <ul class="navbar-nav">
    <li class="nav-item active">
      <a class="nav-link" href="#">Home <span class="sr-only">(current)</span></a>
    </li>
    <li class="nav-item">
      <a class="nav-link" href="#">Features</a>
    </li>
    <li class="nav-item dropdown">
      <a class="nav-link dropdown-toggle" href="#" id="navbarDropdown" role="button" data-toggle="dropdown" aria-haspopup="true" aria-expanded="false">
        Dropdown
      </a>
      <div class="dropdown-menu" aria-labelledby="navbarDropdown">
        <a class="dropdown-item" href="#">Action</a>
        <a class="dropdown-item" href="#">Another action</a>
        <div class="dropdown-divider"></div>
```

```
          <a class="dropdown-item" href="#">Something else
here</a>
        </div>
      </li>
      <li class="nav-item">
        <a class="nav-link" href="#">Pricing</a>
      </li>
    </ul>
  </div>
 </nav>
 <script src="https://code.jquery.com/jquery-
3.5.1.slim.min.js"></script>
 <script
src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.5.3/dist/u
md/popper.min.js"></script>
 <script
src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/js/bo
otstrap.min.js"></script>
</body>
</html>
```

Exercise 7: Create a Modal

Task:

Create a Bootstrap

4 modal that can be triggered by a button.

Solution:

```html
<!DOCTYPE html>
<html lang="en">
<head>
 <meta charset="UTF-8">
 <meta name="viewport" content="width=device-width, initial-scale=1.0">
 <title>Bootstrap 4 Modal</title>
 <link href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" rel="stylesheet">
</head>
<body>
 <div class="container mt-4">
   <button type="button" class="btn btn-primary" data-toggle="modal" data-target="#exampleModal">
     Launch demo modal
   </button>
   <div class="modal fade" id="exampleModal" tabindex="-1" role="dialog" aria-labelledby="exampleModalLabel" aria-hidden="true">
     <div class="modal-dialog" role="document">
```

```html
    <div class="modal-content">
      <div class="modal-header">
        <h5 class="modal-title" id="exampleModalLabel">Modal title</h5>
        <button type="button" class="close" data-dismiss="modal" aria-label="Close">
          <span aria-hidden="true">&times;</span>
        </button>
      </div>
      <div class="modal-body">
        This is a modal example.
      </div>
      <div class="modal-footer">
        <button type="button" class="btn btn-secondary" data-dismiss="modal">Close</button>
        <button type="button" class="btn btn-primary">Save changes</button>
      </div>
    </div>
  </div>
 </div>
 <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"></script>
 <script src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.5.3/dist/umd/popper.min.js"></script>
```

```
  <script
src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/js/bo
otstrap.min.js"></script>

</body>

</html>
```

Exercise 8: Create a Progress Bar

Task:

Create a Bootstrap 4 progress bar that is 70% complete.

Solution:

```html
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <title>Bootstrap 4 Progress Bar</title>

  <link href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" rel="stylesheet">

</head>

<body>
```

```
    <div class="container mt-4">

      <div class="progress">

        <div class="progress-bar" role="progressbar" style="width: 70%;" aria-valuenow="70" aria-valuemin="0" aria-valuemax="100">70%</div>

      </div>

    </div>

</body>

</html>
```

Exercise 9: Create a Badge

Task:

Create a Bootstrap 4 badge that displays a notification count inside a button.

Solution:

```html
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <title>Bootstrap 4 Badge</title>
```

```
  <link
href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/
bootstrap.min.css" rel="stylesheet">
</head>
<body>
  <div class="container mt-4">
    <button type="button" class="btn btn-primary">
      Notifications <span class="badge badge-light">4</span>
    </button>
  </div>
</body>
</html>
```

Exercise 10: Create a Tooltip

Task:

Create a Bootstrap 4 button with a tooltip that says "Click me!".

Solution:
```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
```

```html
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Bootstrap 4 Tooltip</title>
<link href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" rel="stylesheet">
</head>
<body>
<div class="container mt-4">
  <button type="button" class="btn btn-secondary" data-toggle="tooltip" data-placement="top" title="Click me!">
    Hover to see tooltip
  </button>
</div>
<script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"></script>
<script src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.5.3/dist/umd/popper.min.js"></script>
<script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js"></script>
<script>
  $(function () {
    $('[data-toggle="tooltip"]').tooltip()
  })
</script>
```

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