1.Setting up bootstrap 5

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <title>Bootstrap 5 CDN</title>
  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet">
</head>
<body>
  <h1 class="text-center mt-5">Bootstrap 5 CDN Setup</h1>
  <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"></script>
</body>
</html>
```

Exercise 1.2:

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <title>Bootstrap Local</title>
  <link href="bootstrap/css/bootstrap.min.css" rel="stylesheet">
</head>
<body>
  <h1 class="text-center mt-5">Bootstrap 5 Local Files</h1>
```

```
<script src="bootstrap/js/bootstrap.bundle.min.js"></script>

</body>

</html>
```

2.Bootstrap Structure and Files

Exercise 2.1:

```
bootstrap/

 ├──── css/

 │      └──── bootstrap.min.css

 ├──── js/

 │      └──── bootstrap.bundle.min.js

 └──── icons/

        └──── (optional, if using Bootstrap Icons)
```

Exercise 2.2:

```
<!DOCTYPE html>

<html lang="en">

<head>

 <meta charset="UTF-8">

 <meta name="viewport" content="width=device-width, initial-scale=1">

 <title>Bootstrap JS Plugins</title>

 <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">

</head>

<body>

 <div class="container text-center mt-5">

   <button class="btn btn-primary" data-bs-toggle="modal" data-bs-
target="#exampleModal">Open Modal</button>

  </div>
```

```
  <div class="modal fade" id="exampleModal" tabindex="-1">

    <div class="modal-dialog">

      <div class="modal-content">

        <div class="modal-header">

          <h5 class="modal-title">Modal Title</h5>

          <button type="button" class="btn-close" data-bs-dismiss="modal"></button>

        </div>

        <div class="modal-body">This is a modal.</div>

        <div class="modal-footer">

          <button class="btn btn-secondary" data-bs-dismiss="modal">Close</button>

        </div>

      </div>

    </div>

  </div>


  <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"></script>

</body>

</html>
```

3. Fundamentals of Responsive Grid Layout

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1">

  <title>Responsive Grid</title>
```

```html
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">

</head>

<body>

  <div class="container mt-4">

    <div class="row">

      <div class="col-12 col-md-6 col-lg-4 bg-primary text-white p-3">Column 1</div>

      <div class="col-12 col-md-6 col-lg-4 bg-secondary text-white p-3">Column 2</div>

      <div class="col-12 col-md-6 col-lg-4 bg-success text-white p-3">Column 3</div>

    </div>

  </div>

</body>

</html>
```

Exercise 3.2:

```html
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1">

  <title>Grid Structure</title>

  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">

</head>

<body>

  <div class="container mt-4">

    <div class="row">

      <div class="col-sm-4 bg-warning p-3">Column A</div>

      <div class="col-sm-4 bg-info p-3">Column B</div>

      <div class="col-sm-4 bg-danger p-3">Column C</div>
```

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

4. Column Layouts and Grid Classes

Exercise 4.1:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <title>Sidebar Layout</title>
  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet">
</head>
<body>
  <div class="container mt-4">
    <div class="row">
      <div class="col-md-3 bg-light p-3">Sidebar</div>
      <div class="col-md-9 bg-white p-3">Main Content</div>
    </div>
  </div>
</body>
</html>
```

Exercise 4.2:

```
<!DOCTYPE html>
<html lang="en">
<head>
```

```
    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1">

    <title>Four Columns</title>

    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">

</head>

<body>

  <div class="container mt-4">

    <div class="row">

      <div class="col-sm-3 bg-primary text-white p-2">1</div>

      <div class="col-sm-3 bg-secondary text-white p-2">2</div>

      <div class="col-sm-3 bg-success text-white p-2">3</div>

      <div class="col-sm-3 bg-danger text-white p-2">4</div>

    </div>

  </div>

</body>

</html>
```

5. Alignment and Reordering in Grid

Exercise 5.1:

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1">

  <title>Centered Content</title>

  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">

  <style>
```

```
    .height-200 {

      height: 200px;

    }

  </style>

</head>

<body>

  <div class="container mt-4">

    <div class="row justify-content-center align-items-center height-200 bg-light">

      <div class="col-6 text-center">

        <p class="fs-4">Centered Content</p>

      </div>

    </div>

  </div>

</body>

</html>
```

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1">

  <title>Column Reordering</title>

  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">

</head>

<body>

  <div class="container mt-4">

    <div class="row">
```

```html
    <div class="col-md-6 order-md-2 bg-success text-white p-3">Second on desktop</div>

    <div class="col-md-6 order-md-1 bg-primary text-white p-3">First on desktop</div>

  </div>

 </div>

</body>

</html>
```

6. Responsive Flexbox Utilities

Exercise 6.1:

```html
<!DOCTYPE html>

<html lang="en">

<head>

 <meta charset="UTF-8">

 <meta name="viewport" content="width=device-width, initial-scale=1">

 <title>Responsive Flex Navbar</title>

 <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">

</head>

<body>

 <nav class="d-flex flex-column flex-md-row justify-content-between align-items-center p-3
bg-dark text-white">

   <div class="p-2">Logo</div>

   <div class="p-2">Home</div>

   <div class="p-2">About</div>

   <div class="p-2">Contact</div>

 </nav>

</body>

</html>
```

Exercise 6.2:

```html
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1">

  <title>Card Flex Layout</title>

  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">

</head>

<body>

  <div class="container mt-4">

    <div class="card p-3">

      <div class="d-flex justify-content-between align-items-center">

        <div>

          <h5 class="card-title">Card Title</h5>

          <p class="card-text">This is a card with flex layout.</p>

        </div>

        <button class="btn btn-primary">Action</button>

      </div>

    </div>

  </div>

</body>

</html>
```

7. Typography

Exercise 7.1:

```html
<!DOCTYPE html>

<html lang="en">

<head>
```

```html
    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1">

    <title>Typography Utilities</title>

    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">

</head>

<body>

    <div class="container mt-5">

        <h1 class="display-1">Display 1 Heading</h1>

        <p class="lead">This is a lead paragraph with emphasis.</p>

        <p class="text-muted">This text is muted.</p>

        <p class="fw-bold">This text is bold.</p>

        <p class="fst-italic">This text is italic.</p>

    </div>

</body>

</html>
```

Exercise 7.2:

```html
<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1">

    <title>Text Transformations</title>

    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">

</head>

<body>

    <div class="container mt-5">

        <p class="text-uppercase">this text will be uppercase</p>
```

```
    <p class="text-lowercase">THIS TEXT WILL BE LOWERCASE</p>

    <p class="text-capitalize">this text will be capitalized</p>

  </div>

</body>

</html>
```

8.Forms

Exercise 8.1:

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1">

  <title>Registration Form</title>

  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">

</head>

<body>

  <div class="container mt-5">

    <h2>Registration Form</h2>

    <form>

      <div class="mb-3">

        <label for="name" class="form-label">Full Name</label>

        <input type="text" class="form-control" id="name">

      </div>

      <div class="mb-3">

        <label for="email" class="form-label">Email address</label>

        <input type="email" class="form-control" id="email">

      </div>
```

```
    <div class="mb-3">

      <label class="form-label">Username</label>

      <div class="input-group">

        <span class="input-group-text">@</span>

        <input type="text" class="form-control">

      </div>

    </div>

    <div class="mb-3 form-check">

      <input type="checkbox" class="form-check-input" id="terms">

      <label class="form-check-label" for="terms">I agree to the terms</label>

    </div>

    <button type="submit" class="btn btn-primary">Register</button>

  </form>

  </div>

</body>

</html>
```

Exercise 8.2:

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1">

  <title>Floating Login Form</title>

  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">

</head>

<body>

  <div class="container mt-5" style="max-width: 400px;">
```

```html
    <h2 class="mb-4">Login</h2>
    <form>
      <div class="form-floating mb-3">
        <input type="email" class="form-control" id="floatingEmail"
placeholder="name@example.com">
        <label for="floatingEmail">Email address</label>
      </div>
      <div class="form-floating mb-3">
        <input type="password" class="form-control" id="floatingPassword"
placeholder="Password">
        <label for="floatingPassword">Password</label>
      </div>
      <button type="submit" class="btn btn-primary w-100">Login</button>
    </form>
  </div>
</body>
</html>
```

9.Buttons

Exercise 9.1:

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <title>Bootstrap Buttons</title>
  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">
</head>
<body>
```

```
  <div class="container mt-5">

    <h2>Contextual Buttons</h2>

    <div class="mb-3">

      <button class="btn btn-primary">Primary</button>

      <button class="btn btn-secondary">Secondary</button>

      <button class="btn btn-success">Success</button>

      <button class="btn btn-danger">Danger</button>

      <button class="btn btn-warning">Warning</button>

      <button class="btn btn-info">Info</button>

      <button class="btn btn-light">Light</button>

      <button class="btn btn-dark">Dark</button>

    </div>

    <h2>Outline Buttons</h2>

    <div>

      <button class="btn btn-outline-primary">Primary</button>

      <button class="btn btn-outline-secondary">Secondary</button>

      <button class="btn btn-outline-success">Success</button>

      <button class="btn btn-outline-danger">Danger</button>

      <button class="btn btn-outline-warning">Warning</button>

      <button class="btn btn-outline-info">Info</button>

      <button class="btn btn-outline-light">Light</button>

      <button class="btn btn-outline-dark">Dark</button>

    </div>

  </div>

</body>

</html>
```

Exercise 9.2:

```
<!DOCTYPE html>
```

```html
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <title>Button Groups and Toggles</title>
  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet">
</head>
<body>
  <div class="container mt-5">
    <h2>Button Group</h2>
    <div class="btn-group" role="group" aria-label="Basic example">
      <button type="button" class="btn btn-primary">Left</button>
      <button type="button" class="btn btn-primary">Middle</button>
      <button type="button" class="btn btn-primary">Right</button>
    </div>
    <h2 class="mt-4">Toggle Buttons</h2>
    <div class="btn-group" role="group" aria-label="Toggle buttons">
      <input type="checkbox" class="btn-check" id="btncheck1" autocomplete="off">
      <label class="btn btn-outline-primary" for="btncheck1">Option 1</label>
      <input type="checkbox" class="btn-check" id="btncheck2" autocomplete="off">
      <label class="btn btn-outline-primary" for="btncheck2">Option 2</label>
      <input type="checkbox" class="btn-check" id="btncheck3" autocomplete="off">
      <label class="btn btn-outline-primary" for="btncheck3">Option 3</label>
    </div>
  </div>
</body>
</html>
```

10. Navbars and Navigation

Exercise 10.1:

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <title>Responsive Navbar</title>
  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet">
</head>
<body>
 <nav class="navbar navbar-expand-lg navbar-dark bg-dark">
   <div class="container-fluid">
    <a class="navbar-brand" href="#">Logo</a>
    <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-target="#navbarNav">
      <span class="navbar-toggler-icon"></span>
    </button>
    <div class="collapse navbar-collapse" id="navbarNav">
     <ul class="navbar-nav me-auto mb-2 mb-lg-0">
       <li class="nav-item"><a class="nav-link active" href="#">Home</a></li>
       <li class="nav-item"><a class="nav-link" href="#">About</a></li>
       <li class="nav-item"><a class="nav-link" href="#">Contact</a></li>
     </ul>
     <form class="d-flex" role="search">
       <input class="form-control me-2" type="search" placeholder="Search">
       <button class="btn btn-outline-light" type="submit">Search</button>
```

```
      </form>

     </div>

    </div>

   </nav>

  <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"></scrip
t>

</body>

</html>
```

Exercise 10.2:

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1">

  <title>Navigation Tabs and Pills</title>

  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">

</head>

<body>

  <div class="container mt-5">

   <h3>Navigation Tabs</h3>

   <ul class="nav nav-tabs">

     <li class="nav-item"><a class="nav-link active" href="#">Home</a></li>

     <li class="nav-item"><a class="nav-link" href="#">Profile</a></li>

     <li class="nav-item"><a class="nav-link" href="#">Messages</a></li>

   </ul>

   <h3 class="mt-4">Navigation Pills</h3>

   <ul class="nav nav-pills">
```

```html
      <li class="nav-item"><a class="nav-link active" href="#">Home</a></li>

      <li class="nav-item"><a class="nav-link" href="#">Profile</a></li>

      <li class="nav-item"><a class="nav-link" href="#">Messages</a></li>

    </ul>

  </div>

</body>

</html>
```

11. Cards and Media Objects

Exercise 11.1:

```html
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1">

  <title>Profile Card</title>

  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet">

</head>

<body>

  <div class="container mt-5" style="max-width: 300px;">

    <div class="card">

      <img src="https://via.placeholder.com/300x200" class="card-img-top" alt="Profile">

      <div class="card-body">

        <h5 class="card-title">John Doe</h5>

        <p class="card-text">Web Developer at Example Corp</p>

        <a href="#" class="btn btn-primary">View Profile</a>

      </div>

    </div>
```

```
    </div>

</body>

</html>
```

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1">

  <title>Media Object</title>

  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">

</head>

<body>

  <div class="container mt-5">

    <div class="d-flex">

      <img src="https://via.placeholder.com/100" class="me-3 rounded" alt="Media">

      <div>

        <h5>Media Heading</h5>

        <p>This is an example of a media object layout using Bootstrap 5 Flexbox utilities.</p>

      </div>

    </div>

  </div>

</body>

</html>
```

12. Spacing Utilities

```
<div class="m-3 mt-4 p-2 py-5 bg-light">
```

Spacing Example

```
  </div>
```

Exercise 12.2:

```
<div class="container my-5">
  <div class="row">
    <div class="col-md-4 px-3 pb-3">
      <div class="card p-4">
        <h5 class="card-title">Basic Plan</h5>
        <p class="card-text">$10/month</p>
      </div>
    </div>
    <div class="col-md-4 px-3 pb-3">
      <div class="card p-4">
        <h5 class="card-title">Standard Plan</h5>
        <p class="card-text">$20/month</p>
      </div>
    </div>
    <div class="col-md-4 px-3 pb-3">
      <div class="card p-4">
        <h5 class="card-title">Premium Plan</h5>
        <p class="card-text">$30/month</p>
      </div>
    </div>
  </div>
</div>
```

13. Colors and Backgrounds

Exercise 13.1:

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

```
<div class="bg-primary text-white p-3 mb-2">Primary Section</div>

<div class="bg-warning text-dark p-3 mb-2">Warning Section</div>

<div class="bg-success text-white p-3 mb-2">Success Section</div>

</div>
```

Exercise 13.2:

```
<div class="bg-gradient bg-dark text-white p-4">

  Gradient Dark Background with White Text

</div>
```

14. Display and Visibility

Exercise 14.1:

```
<div class="d-none d-md-block">

  Visible on md and larger screens

</div>

<div class="d-lg-flex d-none">

  Visible only on large screens and above as flex

</div>
```

Exercise 14.2:

```
<div class="d-none d-md-block bg-light p-3">

  Sidebar visible on tablets and larger

</div>
```

15. Borders, Shadows, and Rounded Corners

Exercise 15.1:

```
<img src="image.jpg" class="border border-primary border-3 rounded-circle" alt="Profile Image" width="150">
```

Exercise 15.2:

```
<div class="card shadow-lg rounded-pill p-3">

 <div class="card-body">

   Rounded Pill Card with Shadow
```

```
    </div>

</div>
```

16. Positioning Utilities

```
<footer class="position-fixed bottom-0 bg-dark text-white w-100 text-center p-2">

  Fixed Footer

</footer>
```

```
<div class="position-relative d-inline-block">

  <img src="product.jpg" alt="Product" width="200">

  <span class="position-absolute top-0 start-100 translate-middle badge rounded-pill bg-danger">

    New

  </span>

</div>
```

17. Icons with Bootstrap Icons

```
<footer class="text-center p-3">

  <i class="bi bi-facebook mx-2"></i>

  <i class="bi bi-twitter mx-2"></i>

  <i class="bi bi-instagram mx-2"></i>

</footer>
```

```
<button class="btn btn-primary">

  <i class="bi bi-arrow-right"></i>

</button>
```

18. Bootstrap 5 JavaScript Plugins

```html
<button type="button" class="btn btn-primary" data-bs-toggle="modal" data-bs-target="#exampleModal">

  Launch Modal

</button>

<div class="modal fade" id="exampleModal" tabindex="-1">

  <div class="modal-dialog">

    <div class="modal-content">

      <div class="modal-header">

        <h5 class="modal-title">Modal Title</h5>

        <button type="button" class="btn-close" data-bs-dismiss="modal"></button>

      </div>

      <div class="modal-body">

        Modal content goes here.

      </div>

    </div>

  </div>

</div>
```

Exercise 18.2:

```html
<div class="accordion" id="accordionExample">

  <div class="accordion-item">

    <h2 class="accordion-header" id="headingOne">

      <button class="accordion-button" type="button" data-bs-toggle="collapse" data-bs-target="#collapseOne">

        Accordion Item #1

      </button>

    </h2>

    <div id="collapseOne" class="accordion-collapse collapse show" data-bs-parent="#accordionExample">

      <div class="accordion-body">
```

This is the first item's accordion body.

    </div>

  </div>

 </div>

</div>

19. Customization with Sass

Exercise 19.1:

npm install bootstrap

@import "node_modules/bootstrap/scss/bootstrap";

Exercise 19.2:

$primary: #ff5733;

$border-radius: 1rem;

npm run build