

K. J. Somaiya College of Engineering, Mumbai-77
(A Constituent College of Somaiya Vidyavihar University)

Batch: A1 Roll No.: 16010123012

Experiment No. 03

TITLE: Demonstrate the use of Bootstrap

AIM: To use bootstrap (open source front-end development framework) for the creation of web pages.

Expected Outcome of Experiment: Re_design of web pages using various HTML, CSS tags with bootstrap.

Books/ Journals/ Websites referred:

<http://getbootstrap.com/getting-started>

Problem Statement:

- 1. Students have to re-design web-pages developed in Experiment 1 and 2 by using bootstrap.**
- 2. Create a webpage using bootstrap with following features,**
 - i) use a container to set the content's margins dealing with the responsive behaviors of layout.
 - ii) shape the image into a circle
 - iii) use bootstrap grid system
 - iv) create basic pagination
 - v) insert search icon(glyphicon)

Description of the application implemented with output:

- 1.**

The Health and Wellness Blog is a web-based application designed to provide users with insightful health tips, wellness articles, and mental health support. It serves as a digital platform to encourage self-care, mindfulness, and physical well-being.

 1. Navigation Bar - A responsive navigation menu built with Bootstrap that provides easy access. Styled with Bootstrap classes to ensure a clean and modern UI.
 2. Hero Section - Features an engaging banner with a background image, welcoming users. Uses flexbox for center alignment and a semi-transparent background overlay on the text for improved readability.
 3. Interactive Buttons - "Get Started" and "Find Help" buttons with: Hover effect that increases size slightly for better user engagement and Shadow effect on hover for an interactive and dynamic look.
 4. Fully Responsive Design - Implemented Bootstrap grid system for a mobile-friendly experience. Uses flexbox and Bootstrap utilities for layout alignment.

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2.

I have created a responsive webpage using Bootstrap 5 that serves as a simple, structured, and user-friendly layout for any general-purpose content page. The webpage demonstrates the use of key Bootstrap features, including containers, grid system, image styling, pagination, and icons.

1. Responsive Container - A Bootstrap `.container` class is used to keep all content centered and responsive across devices of various screen sizes.
2. Circular Image Styling - Images are styled with Bootstrap's `.rounded-circle` class to give them a perfect circular appearance, enhancing visual aesthetics.
3. Grid System - The layout uses Bootstrap's 12-column grid system via `.row` and `.col-md-4` to create a 3-column responsive layout.
4. Pagination - Basic pagination is implemented using Bootstrap's `.pagination` classes, enabling navigation between different pages or article sections. It includes Previous, numbered pages, and Next options.
5. Search Icon - A search bar is implemented using an input group with a Bootstrap icon (bi-search) representing the search feature. It enhances the UI and gives a clean, functional look.

Code:

1.

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-
scale=1.0" />
    <title>Health and Wellness Blog</title>
    <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.mi
n.css" rel="stylesheet"/>
    <style>
      body {
        font-family: Georgia, "Times New Roman", Times, serif;
      }
      .header-container {
        background-color: #edffd2;
        padding: 10px;
        box-shadow: 0px 4px 10px rgba(0, 0, 0, 0.1);
      }
      .hero-section {
        background-image: url("hwbg.jpg");
        background-size: cover;
        background-position: center;
        color: black;
```

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```
padding: 80px 20px;
height: 75vh;
text-align: center;
display: flex;
flex-direction: column;
justify-content: center;
align-items: center;
}
.hero-section h1,
.hero-section h2 {
background: rgba(255, 255, 255, 0.7);
padding: 10px;
border-radius: 10px;
}
.btn-custom {
padding: 12px 25px;
border-radius: 30px;
transition: 0.3s;
}
.btn-custom:hover {
transform: scale(1.05);
}
.card {
transition: transform 0.3s ease-in-out;
}
.card:hover {
transform: scale(1.05);
}
footer {
background-color: #edffd2;
padding: 15px;
text-align: center;
font-weight: bold;
}
</style>
</head>
<body>
<header class="header-container d-flex justify-content-between
align-items-center p-3">
<div class="d-flex align-items-center">

<h5 class="mb-0">Health and Wellness Blog</h5>
</div>
<nav>
<ul class="nav">
<li class="nav-item">
<a class="nav-link text-dark" href="#">Home</a>
</li>
```

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```
<li class="nav-item">
  <a class="nav-link text-dark" href="#">About</a>
</li>
<li class="nav-item">
  <a class="nav-link text-dark" href="#">Articles</a>
</li>
<li class="nav-item">
  <a class="nav-link text-dark" href="#">Contact</a>
</li>
</ul>
</nav>
</header>
<hr />

<section class="hero-section">
  <h1>Welcome to the Health and Wellness Blog</h1>
  <h2>Your Supportive Health Companion</h2>
  <p class="mt-3">We are here to help you on your mental health
journey.</p>
  <div class="mt-3">
    <a href="#" class="btn btn-primary btn-custom me-2">Get
Started</a>
    <a href="#" class="btn btn-outline-primary btn-custom">Find
Help</a>
  </div>
</section>
<hr />

<footer>
  <span>Health and Wellness Blog 2025</span>
</footer>

<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/js/bootstrap.bund
le.min.js"></script>
<script>
  document.querySelectorAll(".btn-custom").forEach((button) => {
    button.addEventListener("mouseover", () => {
      button.style.boxShadow = "0px 5px 15px rgba(0, 0, 0, 0.3)";
    });
    button.addEventListener("mouseleave", () => {
      button.style.boxShadow = "none";
    });
  });
</script>
</body>
</html>
```

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2.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-
scale=1.0"/>
  <title>Bootstrap Webpage Example</title>
  <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.mi
n.css" rel="stylesheet"/>
  <link href="https://cdn.jsdelivr.net/npm/bootstrap-
icons@1.10.5/font/bootstrap-icons.css" rel="stylesheet"/>
</head>

<body>
  <div class="container mt-4">
    <div class="d-flex justify-content-between align-items-center">
      <h2>Bootstrap Page</h2>
      <div class="input-group" style="width: 250px;">
        <input type="text" class="form-control" placeholder="Search...">
        <span class="input-group-text"><i class="bi bi-
search"></i></span>
      </div>
    </div>
    <hr>
  </div>

  <div class="container mt-4">
    <div class="row text-center">
      <div class="col-md-4 mb-3">
        
        <h5 class="mt-2">Mental Health</h5>
        <p>Tips and techniques to improve mental well-being.</p>
      </div>
      <div class="col-md-4 mb-3">
        
        <h5 class="mt-2">Fitness</h5>
        <p>Get stronger, fitter and healthier with simple workouts.</p>
      </div>
      <div class="col-md-4 mb-3">
        
        <h5 class="mt-2">Nutrition</h5>
        <p>Explore clean eating and smart meal planning ideas.</p>
      </div>
    </div>
  </div>
```

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```
</div>

<div class="container text-center mt-3">
  <nav>
    <ul class="pagination justify-content-center">
      <li class="page-item disabled">
        <a class="page-link" href="#">Previous</a>
      </li>
      <li class="page-item active">
        <a class="page-link" href="#">1</a>
      </li>
      <li class="page-item">
        <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>
  </nav>
</div>

<footer class="bg-light text-center py-3 mt-5">
  &copy; 2025 My Bootstrap Blog
</footer>

<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/js/bootstrap.bundle.min.js"></script>
</body>
</html>
```

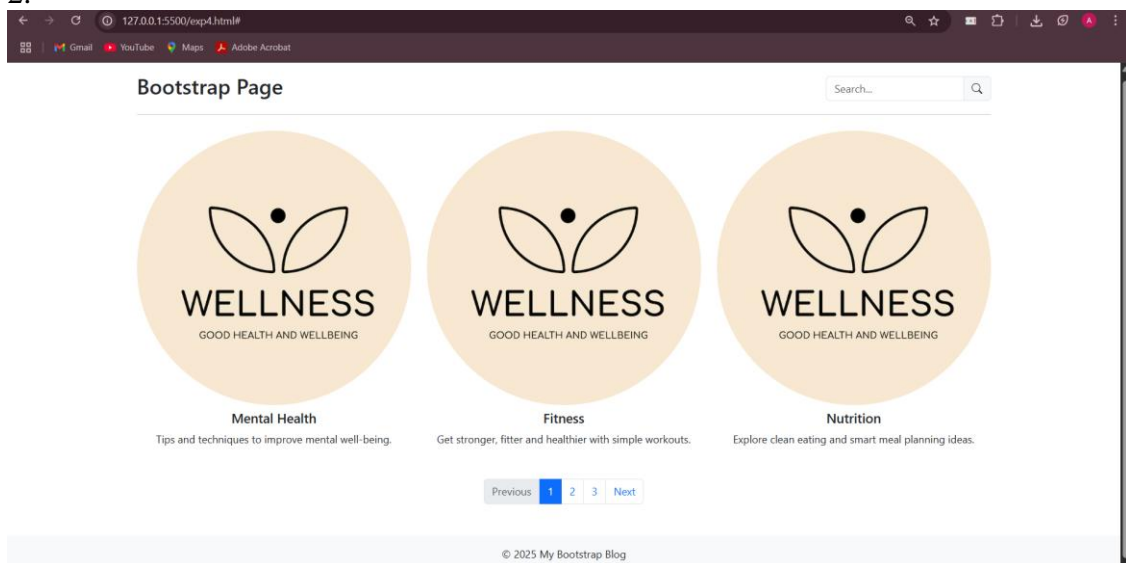
Output:

1.

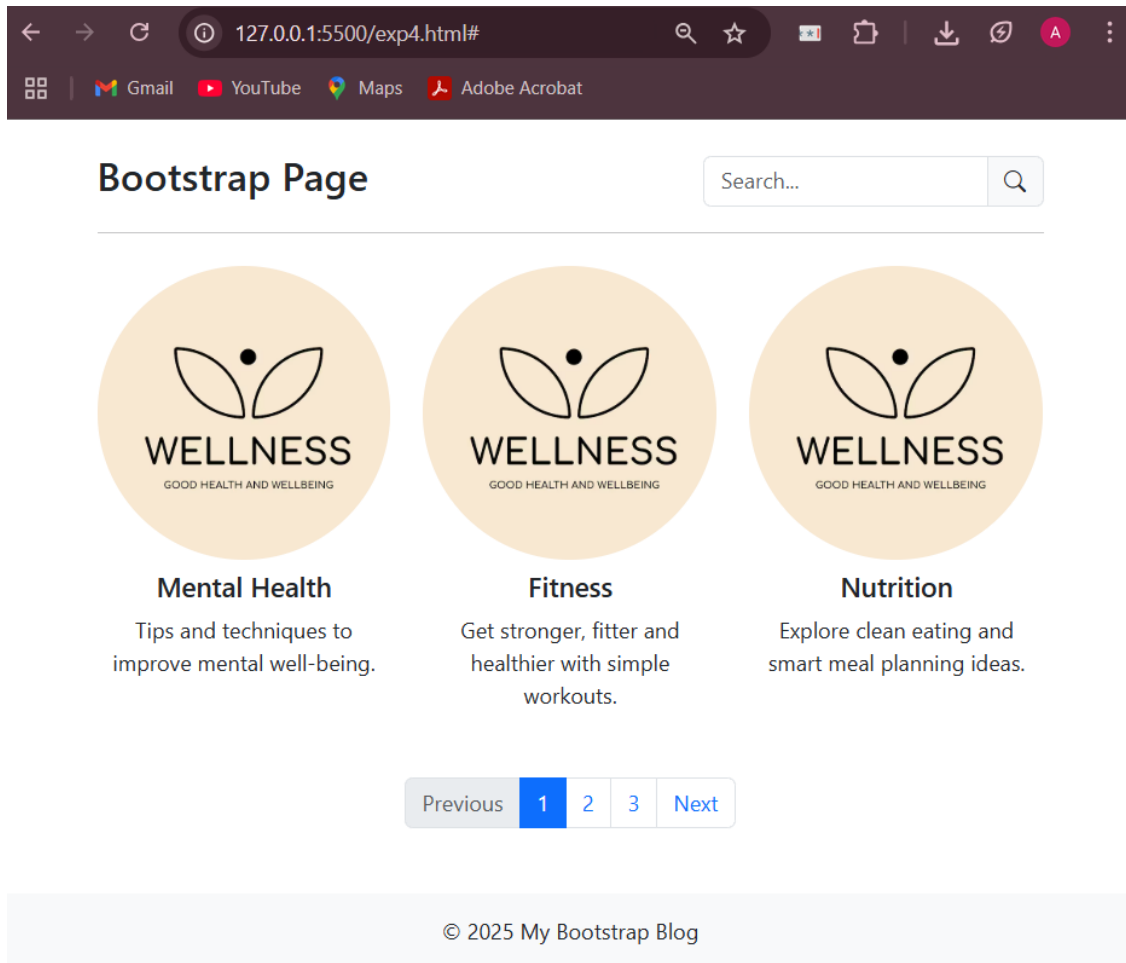
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2.



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Post Lab Questions:

1. What is the use of containers in bootstrap? Explain in detail.

In Bootstrap, containers are essential layout elements used to manage the responsive behavior of a webpage. They help in setting margins, aligning content, and ensuring proper spacing across different screen sizes. There are three types of containers: `.container`, `.container-fluid`, and `.container-{breakpoint}`. The `.container` class provides a fixed-width container that adapts to screen size with predefined maximum widths, making it suitable for most layouts. The `.container-fluid` class spans the entire width of the viewport, allowing for full-width designs. The `.container-{breakpoint}` class, such as `.container-md`, enables a fluid container that becomes fixed at a specific breakpoint. Containers play a vital role in structuring web layouts by maintaining consistency, proper alignment, and responsive adaptability.

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2. Name the classes to achieve the different button styles in bootstrap.

Bootstrap provides predefined button styles to enhance UI consistency. The main button styles include `.btn-primary` (blue, used for primary actions), `.btn-secondary` (gray, for secondary actions), `.btn-success` (green, indicating success), `.btn-danger` (red, for warnings or destructive actions), `.btn-warning` (yellow, for alerts), `.btn-info` (cyan, for informational purposes), `.btn-light` (light gray, for minimal UI impact), and `.btn-dark` (black, for emphasis). Bootstrap also offers outline buttons such as `.btn-outline-primary`, which provide a bordered effect instead of a solid fill. Additionally, buttons can be resized using `.btn-lg` for large buttons and `.btn-sm` for small buttons. The `.d-grid` class can be used to make buttons span the full width of their container. These classes provide flexibility in designing interactive elements efficiently.

3. Write details about the Bootstrap Grid system.

The Bootstrap Grid System is a powerful layout mechanism based on Flexbox, allowing developers to create responsive and structured designs. It divides the webpage into a 12-column layout, where elements can be assigned specific column widths using classes like `.col-4`, `.col-md-6`, etc. Bootstrap uses breakpoints to make grids responsive across different screen sizes, such as `.col-sm-` for small devices ($\geq 576\text{px}$), `.col-md-` for medium devices ($\geq 768\text{px}$), `.col-lg-` for large devices ($\geq 992\text{px}$), and so on. The grid system consists of rows (`.row`) and columns (`.col-*`), ensuring proper alignment and spacing. Columns can also be automatically sized using `.col`, allowing them to adjust based on content. Bootstrap supports offsetting columns using `.offset-*` to create spacing between columns and nested grids, where additional `.row` and `.col-*` classes can be used inside a column for more complex layouts. The grid system simplifies responsive design by making it easier to align, position, and distribute content efficiently across different screen sizes.