MIT WORLD PEACE UNIVERSITY

Full Stack Development
Third Year B.Tech, Semester 1

Design and develop a responsive web page using Bootstrap front end framework.

ASSIGNMENT 2

Prepared By PA−24
Saubhagya Singh
Batch A1

Aim:

Design and develop a responsive web page using Bootstrap front end framework.

Objectives:

1. To understand HTML tags
2. To learn the styling of web pages using CSS
3. To learn Bootstrap Front End Framework.

Theory:

1. Bootstrap Grid System.

The Bootstrap Grid System is a fundamental component of the Bootstrap framework, a popular open-source front-end framework for web development. It provides a responsive grid system that simplifies the process of creating responsive, mobile-first web layouts. Here are some key points about the Bootstrap Grid System:

Grid Layout: Bootstrap uses a 12-column grid system, which means the content of a web page is divided into 12 equal-width columns. Developers can use these columns to structure the layout of a web page.

Responsive Design: Bootstrap's grid system is designed with responsiveness in mind. It automatically adapts to different screen sizes and devices, making it easy to create websites that work well on both desktop and mobile devices. This is achieved through the use of media queries and CSS classes.

Mobile-First Approach: Bootstrap follows a mobile-first approach, meaning that the default grid system is designed for mobile devices and then progressively enhanced for larger screens. This approach ensures that the layout looks good on smaller screens without the need for extensive custom CSS.

Grid Classes: Bootstrap provides a set of grid classes to create column layouts. These classes are typically named col- followed by the number of columns the element should span. For example, col-12 represents a

column that spans the entire width of the container, while col-md-6 represents a column that spans half the width on medium-sized screens.

Container and Container-Fluid: Bootstrap provides two main container classes, container and container-fluid, to wrap your content. The container class has a fixed width, while container-fluid spans the full width of the viewport.

Nesting Grids: You can nest grids within one another to create more complex layouts. This allows you to create rows and columns within existing columns.

Offsetting Columns: Bootstrap also provides classes to offset columns, allowing you to create spacing between columns.

Ordering Columns: You can control the order in which columns appear on the screen using the order classes, enabling flexibility in layout design.

Visibility Classes: Bootstrap includes classes for hiding or showing content on specific screen sizes, making it easy to create responsive designs.

2. Bootstrap .container and .container-fluid class.

In Bootstrap, the `.container` and `.container-fluid` classes are used to create the outermost container elements that wrap and structure the content of a web page. These container classes are fundamental to the grid system and help control the layout and responsiveness of your web page. Here's an explanation of each:

1. **`.container` Class:**
   - The `.container` class creates a fixed-width container for your content. It is designed to provide a responsive layout that adapts to various screen sizes, but it has a maximum width, ensuring that the content does not become too wide on larger screens.
   - The width of the `.container` class varies depending on the viewport size. On small screens, it takes up the full viewport width. As the screen size increases, the container's width is capped, so the content remains centered and easy to read.
   - The `.container` class is ideal for designs where you want to maintain a maximum content width to ensure readability and aesthetics.

Example usage:

```html
<div class="container">
<!-- Your content goes here -->
</div>
```

2. **`.container-fluid` Class:**
   - The `.container-fluid` class creates a full-width container that spans the entire viewport width. It's particularly useful when you want your content to fill the entire horizontal space of the screen.

   - Unlike the `.container` class, `.container-fluid` does not have a maximum width, making it suitable for designs that need content to occupy the entire width of the viewport.

   Example usage:

```html
<div class="container-fluid">
<!-- Your content goes here -->
</div>
```

When choosing between these two classes, consider the design and layout requirements of your web page. Use the `.container` class when you want to limit the content width for readability and a more controlled design. On the other hand, use the `.container-fluid` class when you want content to extend across the full width of the screen. It's worth noting that the choice between these container classes is just one aspect of creating responsive layouts in Bootstrap. The grid system, as mentioned in the previous answer, plays a significant role in organizing the content within these containers to achieve responsive and visually appealing web designs.

FAQ:

1. What is a responsive website?

A responsive website is a website that is designed and developed to adapt and display correctly on various screen sizes and devices, such as desktop computers, laptops, tablets, and smartphones. Responsiveness

is crucial because different devices have different screen dimensions and resolutions. A responsive website ensures that its content, layout, and overall design adjust dynamically to provide an optimal user experience on any device.
Key characteristics of a responsive website include:

Fluid Layout: The layout is designed to expand or contract smoothly to fit the screen width, regardless of the device.

Flexible Images and Media: Images and media elements (videos, maps, etc.) are adjusted to fit the screen size without distortion.

Media Queries: CSS media queries are used to apply specific styles and layouts based on the screen size or device features.

Touch-Friendly Design: Touchscreen devices (like smartphones and tablets) have touch-friendly elements and gestures, making navigation and interaction easier.

Optimized Content: Content may be prioritized, hidden, or rearranged to ensure that the most important information is visible on smaller screens.

Cross-Browser Compatibility: The site functions consistently across different web browsers.

A responsive website enhances user experience, reduces bounce rates, and improves SEO, as search engines like Google favor mobile-friendly, responsive designs.

2. How Bootstrap helps to design a responsive website?
Bootstrap is a popular front-end framework that significantly simplifies the process of designing and developing responsive websites. Here's how Bootstrap helps with responsive web design:

Grid System: Bootstrap provides a flexible 12-column grid system that makes it easy to create responsive layouts. You can define how many columns an element should span on different screen sizes, ensuring proper content placement.

Responsive Utilities: Bootstrap includes responsive utility classes and predefined breakpoints that allow you to hide, show, or adjust elements based on the screen size. For example, you can hide a sidebar on smaller screens or change the font size for mobile devices.

Pre-Designed Components: Bootstrap offers a library of pre-designed responsive components, such as navigation menus, modals, and carousels. These components are designed to work seamlessly on various screen sizes.

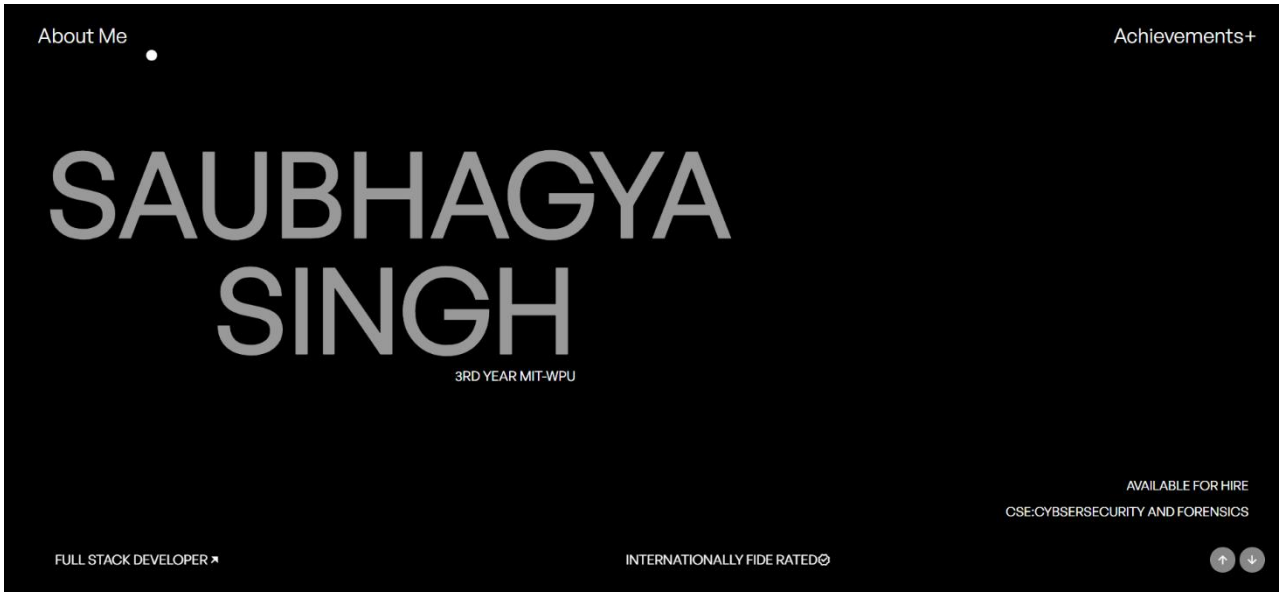
Mobile-First Approach: Bootstrap follows a mobile-first design philosophy, meaning that it's optimized for small screens and progressively enhanced for larger screens. This approach ensures that your website looks good on mobile devices without additional custom coding.

Built-In CSS: Bootstrap's CSS is optimized for cross-browser compatibility and responsiveness, reducing the need for extensive browser-specific fixes.

Extensive Documentation: Bootstrap provides thorough documentation and examples, making it easy for developers to understand and implement responsive design principles.

By using Bootstrap, web developers can save time and effort in creating responsive websites, as it provides a framework that simplifies the design and development process, resulting in consistent and visually appealing web layouts across a wide range of devices and screen sizes.


WHAT JOB PROFILE ARE YOU LOOKING FOR?
D E V E L O P E R
C H E S S C O A C H


About Me
Achievements+
SAUBHAGYA SINGH
3RD YEAR MIT-WPU
AVAILABLE FOR HIRE
CSE:CYBSERSECURITY AND FORENSICS
FULL STACK DEVELOPER
INTERNATIONALLY FIDE RATED

ABOUT ME

Hello, I am Saubhagya Singh, a driven and ambitious Computer Science Engineering student in my third year at MIT-WPU College. With a relentless passion for technology and a commitment to excellence, I have been on a transformative journey in the world of computer science. My portfolio is a reflection of my dedication to innovation, problem-solving, and my continuous quest to expand my knowledge and skills. Join me as I showcase my academic and extracurricular achievements, projects, and the exciting ventures I've undertaken on my path to becoming a well-rounded computer scientist.

CODECHEF

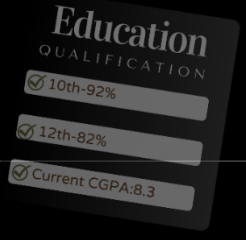
HACKERANK

FOLLOW ME ON INSTAGRAM

2023 ©

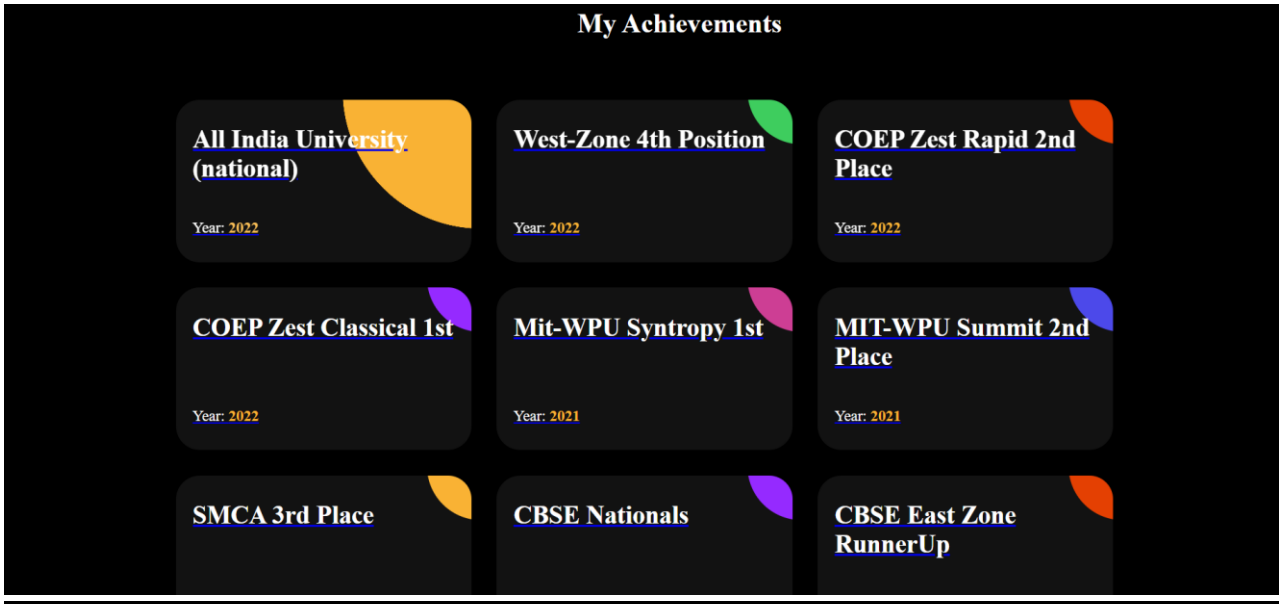
LINKEDIN GITHUB WHATSAPP GMAIL

SKILLS



EDUCATION

MAJOR PROJECTS



Output:

Made my personal portfolio for different job profiles:
https://github.com/SaubhagyaSingh/SaubhagyaSingh.github.io-portfolio

Website link:
https://saubhagyasingh.github.io/SaubhagyaSingh.github.io-portfolio/