Frontend Libraries Bootstrap

By the end of this lesson you will be able to

What is Bootstrap?

Bootstrap is a popular front-end framework for building responsive websites and web applications.

Developed by Twitter and now maintained by the open-source community.

https://expo.getbootstrap.com/

Key Features of Bootstrap

Responsive Design: Websites built with Bootstrap automatically adapt to different screen sizes and devices.

Grid System: Bootstrap provides a flexible grid layout system that helps in creating responsive designs.

Pre-styled Components: Bootstrap offers a wide range of pre-styled components such as buttons, forms, navigation bars, etc.

Extensive CSS Library: Bootstrap includes a comprehensive set of CSS classes and utilities to style web elements easily.

publicdomainvectors.org

Getting Started with Bootstrap

Bootstrap Classes

Bootstrap is also a collection of premade CSS styles we can use to create fluid, flexible, and responsive websites.

```html
<button type="button" class="btn btn-primary">Primary</button>
<button type="button" class="btn btn-secondary">Secondary</button>
<button type="button" class="btn btn-success">Success</button>
<button type="button" class="btn btn-danger">Danger</button>
<button type="button" class="btn btn-warning">Warning</button>
<button type="button" class="btn btn-info">Info</button>
<button type="button" class="btn btn-dark">Dark</button>
<button type="button" class="btn btn-light">Light</button>
<button type="button" class="btn btn-link">Link</button>
```

Bootstrap Containers

Containers are the most basic layout element in Bootstrap and are required when using the grid system. Containers are basically used to wrap content with some padding. They are also used to align the content horizontally center on the page in case of fixed width layout.

Bootstrap provides three different types containers:

- `.container`, which has a max-width at each responsive breakpoint.

- `.container-fluid`, which has 100% width at all breakpoints.

- `.container-{breakpoint}`, which has 100% width until the specified breakpoint.

Container Examples

Creating Responsive Fixed-width Containers

You can simply use the `.container` class to create a responsive, fixed-width container. The width of the container will change at different breakpoints or screen sizes, as shown above.

Example   Try this code »

```
1  <div class="container">
2      <h1>This is a heading</h1>
3      <p>This is a paragraph of text.</p>
4  </div>
```

Container Examples

Creating Fluid Containers

You can use the `.container-fluid` class to create a full width container. The width of the fluid container will always be 100% irrespective of the devices or screen sizes.

Example	Try this code »

```
1   <div class="container-fluid">
2       <h1>This is a heading</h1>
3       <p>This is a paragraph of text.</p>
4   </div>
```
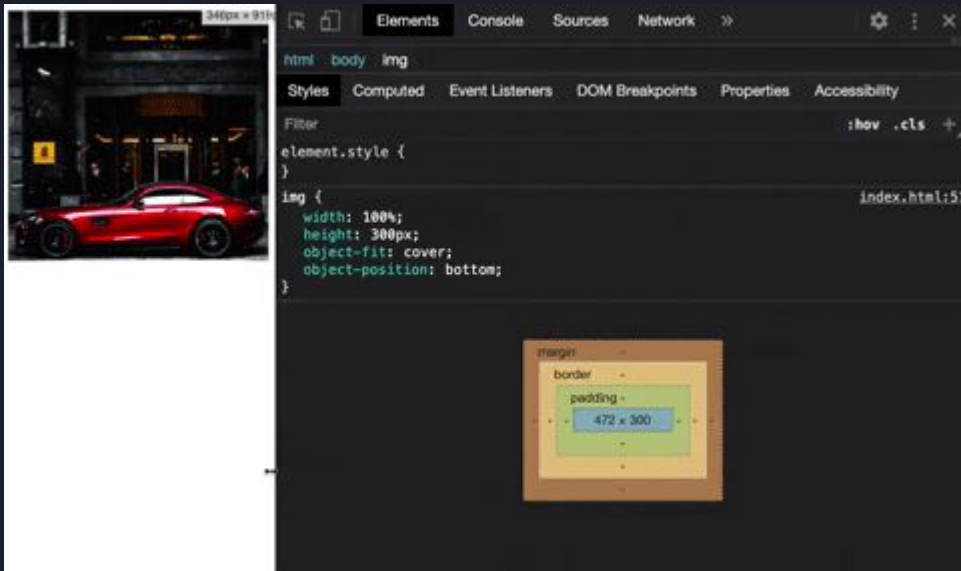
Adding colors

By default, container doesn't have any background-color or border. But if you need you can apply your own styles, or simply use the Bootstrap background-color and border utility classes to add background-color or border on them, as shown in the following example

```html
1   <!-- Container with dark background and white text color -->
2   <div class="container bg-dark text-white">
3       <h1>This is a heading</h1>
4       <p>This is a paragraph of text.</p>
5   </div>
6
7   <!-- Container with light background -->
8   <div class="container bg-light">
9       <h1>This is a heading</h1>
10      <p>This is a paragraph of text.</p>
11  </div>
12
13  <!-- Container with border -->
14  <div class="container border">
15      <h1>This is a heading</h1>
16      <p>This is a paragraph of text.</p>
17  </div>
```

Responsive Images


```
<img src="..." class="img-fluid" alt="Responsive image">
```

Bootstrap Components

Bootstrap provides a wide range of pre-styled components to enhance your website's design.

Examples: Buttons, forms, navigation bars, dropdowns, modals, carousels, etc.

Demo/activity

Responsive Design

Bootstrap makes it easy to create responsive websites that adapt to different screen sizes.

Show examples of responsive behavior using Bootstrap's responsive classes.

Explain the concept of breakpoints and how they affect the design at different screen sizes.
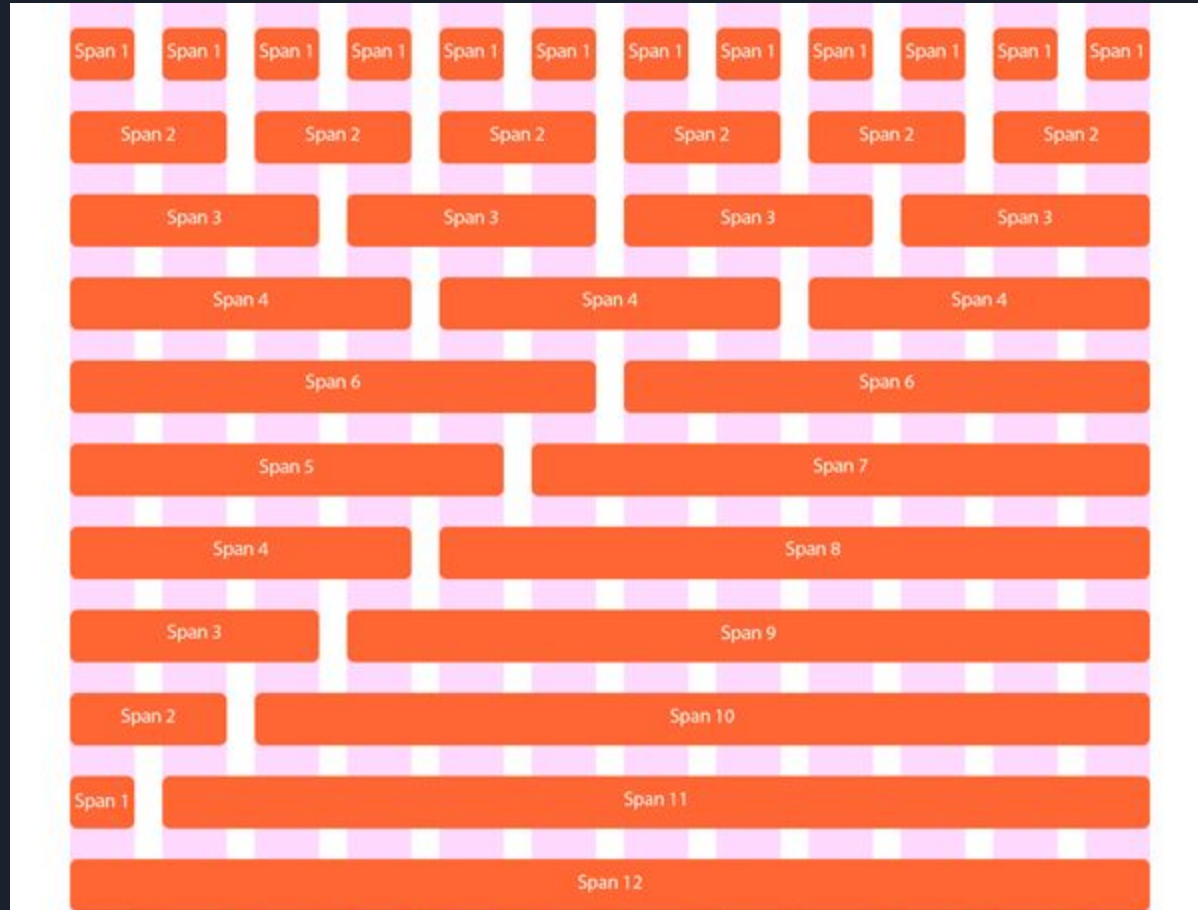
Bootstrap's Grid System

The grid system is one of the key features of Bootstrap.

It uses a 12-column grid layout that allows you to create responsive and flexible designs.

For example, a developer may want one picture to take up the entire screen on a mobile device. On the other hand, he may want two (or maybe four) pictures display per row on larger screens. Bootstrap makes it quick and easy to implement this.

How to use the Grid System

Must have a container with the class row

Inside the container you will use .col-size-width to create the grid item

	Extra small <576px	Small ≥576px	Medium ≥768px	Large ≥992px	Extra large ≥1200px
Max container width	None (auto)	540px	720px	960px	1140px
Class prefix	.col-	.col-sm-	.col-md-	.col-lg-	.col-xl-

The Team!

Naruto The Brave

ipsum dolor sit amet, consectetur adipiscing elit. Maecenas vestibulum purus nec turpis sagittis, ac dignissim enim fermentum

Finn the Strong

ipsum dolor sit amet, consectetur adipiscing elit. Maecenas vestibulum purus nec turpis sagittis, ac dignissim enim fermentum

Gohan the Golden Saiyan

ipsum dolor sit amet, consectetur adipiscing elit. Maecenas vestibulum purus nec turpis

BMO the Brains

ipsum dolor sit amet, consectetur adipiscing elit. Maecenas vestibulum purus nec turpis sagittis, ac dignissim enim fermentum

```html
<div class="row"> <!-- this is our row that will hold our columns -->
    <!--        col 1 -->
    <div class="col-md-3"> <!-- this is a column with the md breakpoint that is a size of 3, This will hold our content for our person -->
        <!--        content -->
        <img src="Pictures/Naruto.png" class="headshot">
        <h3>Naruto The Brave</h3>
        <p>ipsum dolor sit amet, consectetur adipiscing elit. Maecenas vestibulum purus nec turpis sagittis, ac dignissim enim fermentum.</p>
    </div>
    <!--        col 2 -->

    <div class="col-md-3">
        <!--        content -->
        <img src="Pictures/Finn.jpg" class="headshot">
        <h3>Finn the Strong</h3>
        <p>ipsum dolor sit amet, consectetur adipiscing elit. Maecenas vestibulum purus nec turpis sagittis, ac dignissim enim fermentum.</p>
    </div>
    <!--        col 3 -->

    <div class="col-md-3">
        <!--        content -->
        <img src="Pictures/Gohan.jpg" class="headshot">
        <h3> Gohan the Golden Saiyan</h3>
        <p>ipsum dolor sit amet, consectetur adipiscing elit. Maecenas vestibulum purus nec turpis sagittis, ac dignissim enim fermentum.</p>
    </div>
    <!--        col 4 -->

    <div class="col-md-3">
        <!--        content -->
        <img src="Pictures/Bmo.jpg" class="headshot">
        <h3>BMO the Brains</h3>
        <p>ipsum dolor sit amet, consectetur adipiscing elit. Maecenas vestibulum purus nec turpis sagittis, ac dignissim enim fermentum.</p>
    </div>
</div>
```

Demo/Activity

Customizing bootstrap

Resources and Documentation

Bootstrap allows you to customize its default styles to match your project's design.

Discuss the customization options, including SASS variables and mixins.

Mention the availability of custom themes and template builders.

Project