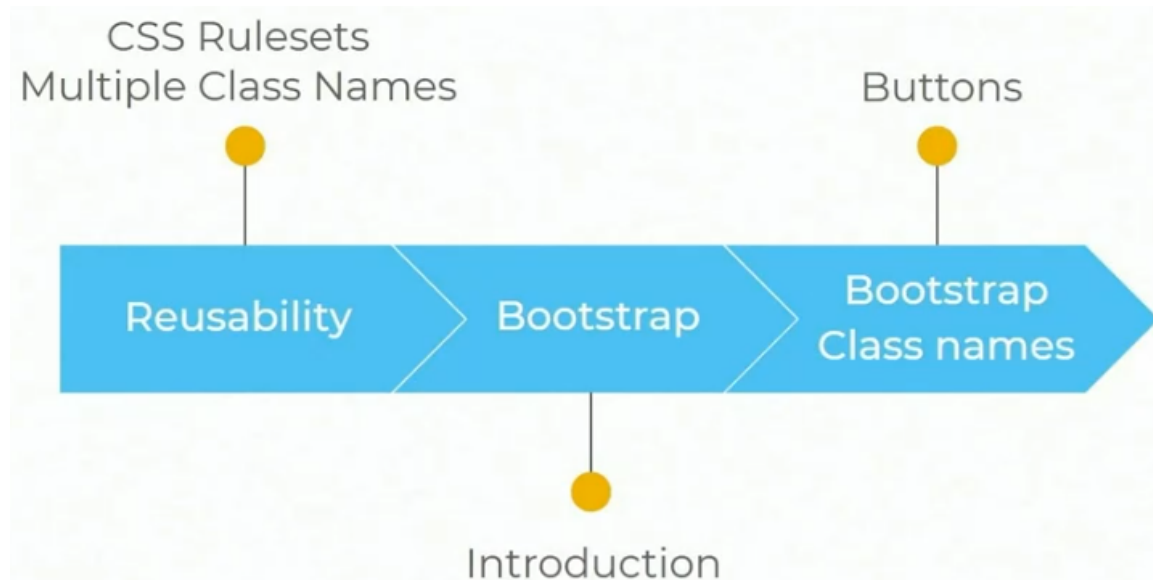# Topic 3 : Bootstrap   ¶

In [1]:

```
from IPython.display import Image
Image("E:/code/frontend/img/html13.png")
```

Out[1]:

1. Reusability of CSS Rulesets

- If we want the same style for multiple HTML elements, we can write the CSS Ruleset once and use it for different HTML elements.

2. Multiple class names as an HTML attribute value

- We can provide multiple class names separated by space as a value to the HTML class attribute.
- Syntax: tag class = "name1 name2 name3 name4 ...">Content</tag
- HTML attribute value: name1 name2 name3 name4 ...
- class names: name1, name2, name3, and name4

In [2]:

```
from IPython.display import Image
Image("E:/code/frontend/img/html14.png")
```

Out[2]:

3. Bootstrap

- Bootstrap is a large collection of predefined reusable Code Snippets written in HTML, CSS, and Javascript.
- The Code Snippets include Buttons, Cards, Carousels, etc.

3.1 How to use Bootstrap?

- To use the Code Snippets provided by Bootstrap, we need to add the below piece of code within the HTML head element. We call it BootstrapCDN.

In [3]:

```
<link rel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css"
integrity="sha384-JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z"
crossorigin="anonymous"/>

<script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"
integrity="sha384-DfXdz2htPH0lsSSs5nCTpuj/zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj"
crossorigin="anonymous"></script>

<script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.1/dist/umd/popper.min.js"
integrity="sha384-9/reFTGAW83EW2RDu2S0VKaIzap3H66lZH81PoYlFhbGU+6BZp6G7niu735Sk7lN"
crossorigin="anonymous"></script>

<script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js"
integrity="sha384-B4gt1jrGC7Jh4AgTPSdUtOBvfO8shuf57BaghqFfPlYxofvL8/KUEfYiJOMMV+rV"
crossorigin="anonymous"></script>
```

```
  File "<ipython-input-3-d7c0a7ded2bb>", line 1
    <link rel="stylesheet"
    ^
SyntaxError: invalid syntax
```

3.2 Predefined Styles in Bootstrap

3.2.1 Button

- The Bootstrap class name btn is used to style the HTML button element.

In [4]:

```
<button class="btn">Submit</button>
```

```
  File "<ipython-input-4-32a41358681c>", line 1
    <button class="btn">Submit</button>
    ^
SyntaxError: invalid syntax
```
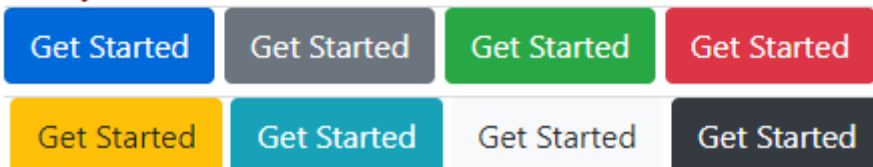
In [5]:

```
from IPython.display import Image
Image("E:/code/frontend/img/html15.png")
```
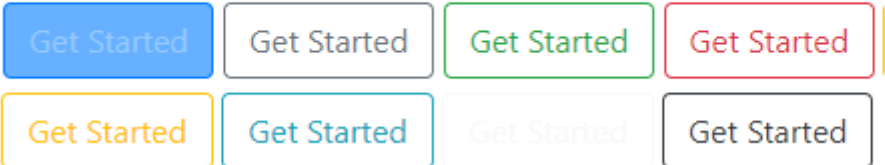
Out[5]:

- Bootstrap provides us with different types of buttons. One of them is outline buttons, which don't have a background color.
- To add the outline buttons in our HTML document, just replace btn in the above class names with the btn-outline.
- To achieve the different outline button styles, Bootstrap has the following class names:

In [6]:

```python
from IPython.display import Image
Image("E:/code/frontend/img/html16.png")
```

Out[6]:

```
<body>
····<button class="btn btn-outline-primary">Get Started</button>
····<button class="btn btn-outline-secondary">Get Started</button>
····<button class="btn btn-outline-success">Get Started</button>
····<button class="btn btn-outline-danger">Get Started</button>
····<button class="btn btn-outline-warning">Get Started</button>
····<button class="btn btn-outline-info">Get Started</button>
····<button class="btn btn-outline-light">Get Started</button>
····<button class="btn btn-outline-dark">Get Started</button>
</body>
```

| Get Started | Get Started | Get Started | Get Started |
| Get Started | Get Started | Get Started | Get Started |

3.2.2 Text colors

- To apply different colors to the text, Bootstrap has the following class names:

In [7]:

```python
from IPython.display import Image
Image("E:/code/frontend/img/html17.png")
```

Out[7]:

```
<body>                                              Tourism
····<p class="text-primary">Tourism</p>
····<p class="text-secondary">Tourism</p>         Tourism
····<p class="text-success">Tourism</p>
····<p class="text-danger">Tourism</p>            Tourism
····<p class="text-warning">Tourism</p>
····<p class="text-info">Tourism</p>              Tourism
····<p class="text-light">Tourism</p>
····<p class="text-dark">Tourism</p>              Tourism
</body>
                                                   Tourism

                                                   Tourism
```

3.2.3 Text transform

- To apply different cases like upper case, lower case, etc. to the text, Bootstrap has the following class names:

In [8]:

```
from IPython.display import Image
Image("E:/code/frontend/img/html19.png")
```

Out[8]:

3.2.4 Background colors

- To apply different background colors to an HTML element, Bootstrap has the following class names:

In [9]:

```
from IPython.display import Image
Image("E:/code/frontend/img/html20.png")
```

Out[9]:

Pre defined class names

In [10]:

```
from IPython.display import Image
Image("E:/code/frontend/img/html18.png")
```

Out[10]:

active   badge   caption
affix   bg-danger   caret
alert   bg-info   carousel
alert-danger   bg-primary   collapse
alert-dismissible   bg-success   **card**
alert-link   bg-warning   card-body
alert-success   btn   disabled
                                         divider
                                  many more...

Note: Don't use predefined bootstrap class names in CSS Rulesets

Bootstrap provides us with many predefined class names. Some of them are:

card carousel alert alert-success alert-link bg-danger card-body and many more...

You can find the list of class names provided by the bootstrap

- https://learning.ccbp.in/projects/course?c_id=fe4c935d-3ad5-4bb8-a1a5-9b045ae70010&t_id=a5451761-cf9a-473f-9b6e-f9bde4641239&s_id=cced1662-8460-43e2-a0c7-8c4b68af357b&enroll=true (https://learning.ccbp.in/projects/course?c_id=fe4c935d-3ad5-4bb8-a1a5-9b045ae70010&t_id=a5451761-cf9a-473f-9b6e-f9bde4641239&s_id=cced1662-8460-43e2-a0c7-8c4b68af357b&enroll=true)

Introduction to Bootstrap | Part 2

Layout

- A layout is a pattern by which we structure the information and arrange the elements on the website.
- defining the position.

Methods to design a Layout

- Mainly there are two methods that help to design the layout of the webpage
  - Flexbox(stable)
  - CSS Grid(Advvanced & Fast growing but not stable)

Flexbox

- it is a Layout Method that helps to arrange HTML elements in rows(horizontally) or columns(vertically)

Flexbox Properties

1. Flexbox Container

- The Bootstrap class name d-flex defines a Flexbox Container. The direct HTML elements in the Flexbox Container are called flex items.
  - The HTML container element with the class="d-flex" is a Flexbox Container.
  - The HTML container element div in Flexbox Container is a flex item. Because it is directly inside the Flexbox Container.
  - The HTML main heading, paragraph, and button elements are not flex items. Because these elements are not directly inside the Flexbox Container.

Note:

- Wrapping HTML elements in the Flexbox Container is mandatory to apply other flex properties.

2. Flex Direction

- The Flex Direction specifies the direction of the flex items in the Flexbox Container.

2.1 flex-row

- The Bootstrap class name flex-row is used to move the flex items horizontally in the Flexbox Container.

2.2 flex-column

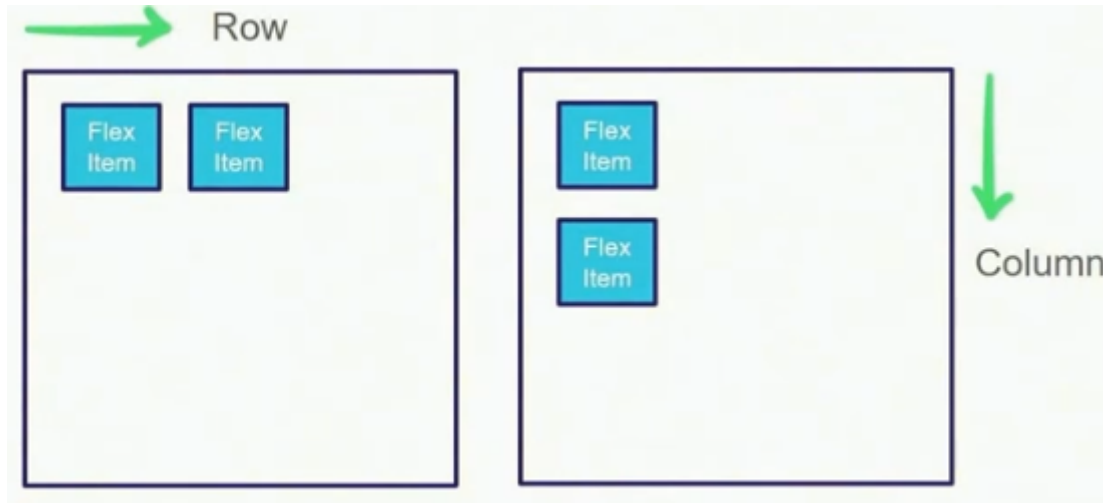- The Bootstrap class name flex-column is used to move the flex items vertically in the Flexbox Container.

Note

- The Bootstrap class name flex-row is the default Flex Direction for the Flexbox Container. So, once d-flex is specified, all the flex items in the Flexbox Container display horizontally.

In [11]:

```
from IPython.display import Image
Image("E:/code/frontend/img/html22.png")
```

Out[11]:

3. Justify Content

- The Justify Content specifies the alignment of flex items along the Flex Direction in a Flexbox Container.

3.1 justify-content-start

- The Bootstrap class name justify-content-start is used to align the flex items at the start of the Flexbox Container either horizontally or vertically based on the Flex Direction.

3.2 justify-content-center

- The Bootstrap class name justify-content-center is used to align the flex items at the center of the Flexbox Container either horizontally or vertically based on the Flex Direction.

3.3 justify-content-end

- The Bootstrap class name justify-content-end is used to align the flex items at the end of the Flexbox Container either horizontally or vertically based on the Flex Direction.

In [12]:

```python
from IPython.display import Image
Image("E:/code/frontend/img/html21.png")
```
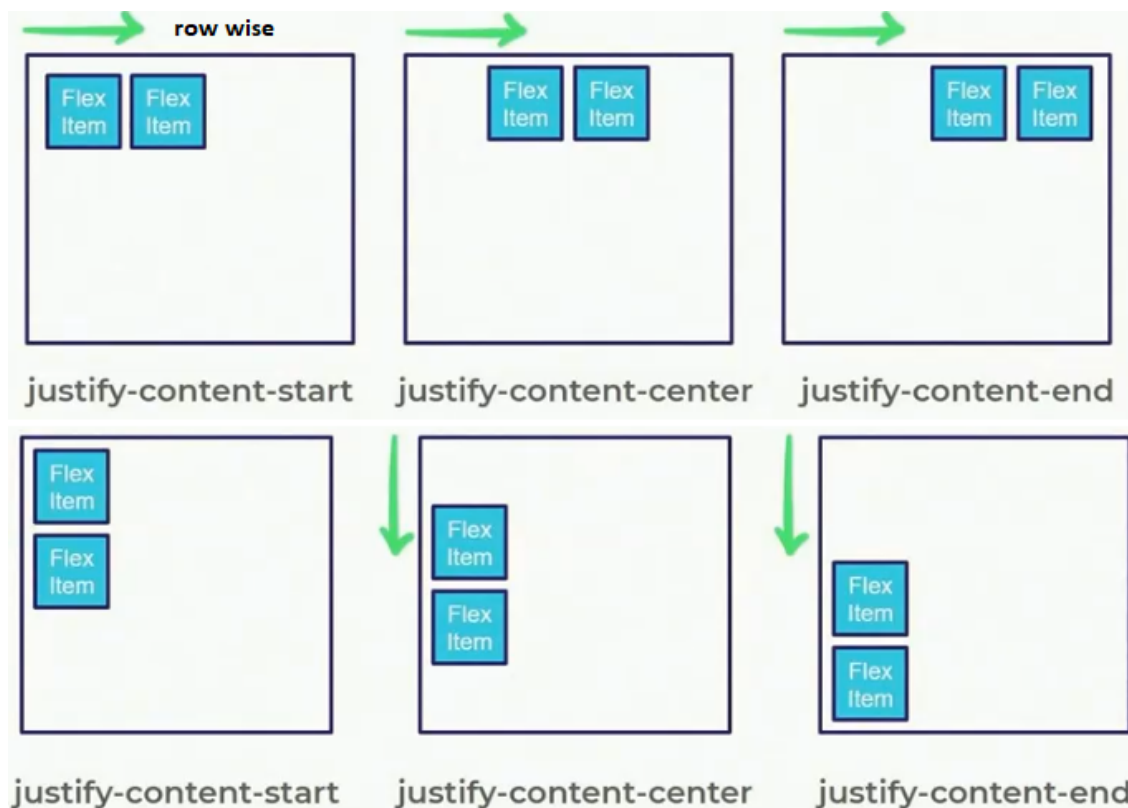
Out[12]:

```html
<body>
    <div class="d-flex flex-row justify-content-start">
    <div class="d-flex flex-row justify-content-center">
    <div class="d-flex flex-row justify-content-end">
    <div class="d-flex flex-column justify-content-start">
    <div class="d-flex flex-column justify-content-center">
    <div class="d-flex flex-column justify-content-end">
        <div>
            <h1>Tourism</h1>
            <p>Plan your trip.</p>
            <button>Get Started</button>
        </div>
    </div>
</body>
```

In [13]:

```python
from IPython.display import Image
Image("E:/code/frontend/img/html23.png")
```

Out[13]:

In [14]:

```python
from IPython.display import Image
Image("E:/code/frontend/img/html24.png")
```

Out[14]:

> <> pg6_flexbox_main.html > ...

```html
<!DOCTYPE html>
<html>
<head>
    <link rel="stylesheet" type="text/css" href="pg6_style.css" />
    <link rel="stylesheet"
    href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css"
    integrity="sha384-JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z"
    crossorigin="anonymous"/>

    <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"
    integrity="sha384-DfXdz2htPH0lsSSs5nCTpuj/zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj"
    crossorigin="anonymous"></script>

    <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.1/dist/umd/popper.min.js"
    integrity="sha384-9/reFTGAW83EW2RDu2S0VKaIzap3H66lZH81PoYlFhbGU+6BZp6G7niu735Sk7lN"
    crossorigin="anonymous"></script>

    <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js"
    integrity="sha384-B4gt1jrGC7Jh4AgTPSdUtOBvfO8shuf57BaghqFfPlYxofvL8/KUEfYiJOMMV+rV"
    crossorigin="anonymous"></script>
</head>
<body>
    <div class="bg-container d-flex flex-column justify-content-end">
        <div class="tourism-card">
            <h1 class="main-heading">Tourism</h1>
            <p class="paragraph">plan your trip wherever you want to go.</p>
            <button class="button">Get Started</button>
        </div>
    </div>
</body>
</html>
```

In [15]:

```
from IPython.display import Image
Image("E:/code/frontend/img/html25.png")
```

Out[15]:

```css
> # pg6_style.css > ...
@import url("https://fonts.googleapis.com/css2?family=Bree+Serif&family=(
.bg-container{
    height: 100vh;
    background-size: cover;
    background-image: url("D:/Tech/0.UI/code/HtmlCss1/images/ocean.jpg")
}

.tourism-card{
    text-align: center;
    background-color: ☐white;
    border-top-left-radius: 25px;
    border-top-right-radius: 25px;
    padding: 5px;
}

.button{
    height: 36px;
    width: 138px;
    background-color: ◼#25b1cc;
    color: ☐white;
    border-radius: 25px;
    border-width: 0px;
}

.main-heading{
    color: ◼blue;
}

.paragraph{
    color: ◼grey;
}
```

Task2 : Chat Page

In [16]:

```python
from IPython.display import Image
Image("E:/code/frontend/img/htmlpractice3.png")
```

Out[16]:

```html
<body>
    <div class="bg-container">
        <h1 class="main-heading"> Pavan Kumar Puppala </h1>
        <div class="chat-page">
            <p class="msg-send"> Hello Pavan, how are you? </p>
            <p class="msg-receive"> Hi chandu, I am good. How about you? </p>
            <p class="msg-send"> I'm fine. I published my website recently </p>
            <p class="msg-receive"> Oh great chandu! Can you send me the URL? </p>
            <p class="msg-send"> https://chandu.com </p>
            <p class="msg-receive"> Awesome chandu, where did you learn? </p>
            <p class="msg-send"> from all different websites..</p>
        </div>

    </div>
</body>
```
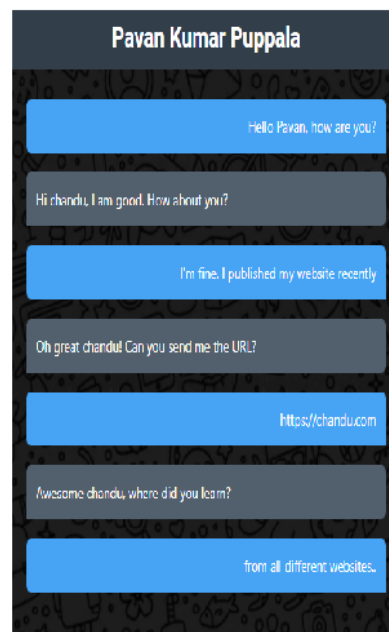
In [17]:

```python
from IPython.display import Image
Image("E:/code/frontend/img/htmlpractice4.png")
```

Out[17]:

Task3: Code page

In [18]:

```
from IPython.display import Image
Image("E:/code/frontend/img/htmlpractice5.png")
```

Out[18]:

Task4: food page

In [19]:

```
from IPython.display import Image
Image("E:/code/frontend/img/htmlpractice6.png")
```

Out[19]:

In [20]:

```python
from IPython.display import Image
Image("E:/code/frontend/img/htmlpractice7.png")
```

Out[20]:

Topic 4: Developing Layouts

1. HTML Elements

1.1 Image Element : The HTML img element defines an Image.

- Syntax: img src="IMAGE_URL"/>

1.2 The src Attribute: The HTML Attribute src specifies the path (URL) of the Image.

- img src="D:/Tech/0.UI/code/HtmlCss1/images/tajmahal-img.png"/>

1.3 How to get the path (URL) of an Image?

- One of the ways to get the path (URL) of an Image from the internet.
- Open the Google Image search page: Go to https://images.google.com/ (https://images.google.com/) in your Web browser. This will open the Google search page for images.
- Enter an image you want to search for: Type a word or phrase into the text box in the middle of the page.
- Click the Search icon: It's to the right of the text box. Doing so will search Google for images related to your search.
- Find your image: Scroll through the results until you find one which matches your needs.
- Open the image in a new tab: Click the Open image in new tab.
- Copy the image's URL: Copy the entire URL of the image from the address bar of the Web browser.
- Paste this URL in the HTML src Attribute of an HTML img element.

1.4 How to apply Height and Width to an Image?

- We can provide multiple HTML Attributes to the HTML img element. The HTML src and class Attributes are provided in the HTML img element given below.
- img src="D:/Tech/0.UI/code/HtmlCss1/images/tajmahal-img.png" class="image" />
- .image { width: 80px; height: 100px; }

2. Void Elements

- The HTML elements that only have a start tag and do not contain content or end tag are called as Void Elements.
- Syntax: tag />
- For example, the HTML img element. : img src="D:/Tech/0.UI/code/HtmlCss1/images/tajmahal-img.png"/>

3. CSS Box Model Properties

3.1 Margin

- The CSS margin property specifies the space around the four sides of an HTML element.
- .card-container { margin: 10px; }
- You can use the below CSS properties to apply a margin on the specific side of an HTML element,
- margin-top, margin-right, margin-bottom, margin-left

In [21]:

```
from IPython.display import Image
Image("E:/code/frontend/img/html26.png")
```

Out[21]:

In [22]:

```
from IPython.display import Image
Image("E:/code/frontend/img/html27.png")
```

Out[22]:

Now Adding all the cards and add margin(space) between the cards

In [23]:

```python
from IPython.display import Image
Image("E:/code/frontend/img/html28.png")
```

Out[23]:

```html
<body>
    <div class="fav-places-bg-container">
        <h1 class="fav-places-heading">Favourite Places</h1>
        <div class="fav-place-card-container d-flex flex-row">
            <div>
                <h1 class="fav-place-card-heading">Taj Mahal</h1>
                <p class="fav-place-card-description">
                    If there was just one symbol to represent all of India, it would be
                    the Taj Mahal
                </p>
            </div>
            <img src="D:/Tech/0.UI/code/HtmlCss1/images/tajmahal-img.png" class="fav-place-card-image"/>
        </div>
        <div class="fav-place-card-container d-flex flex-row">
            <div>
                <h1 class="fav-place-card-heading">Golden Temple</h1>
                <p class="fav-place-card-description">
                    Amritsar is world-famous for the beautiful and highly revered Golden
                Temple
                </p>
            </div>
            <img src="D:/Tech/0.UI/code/HtmlCss1/images/golden-temple-img.png" class="fav-place-card-image"/>
        </div>
    </div>
```
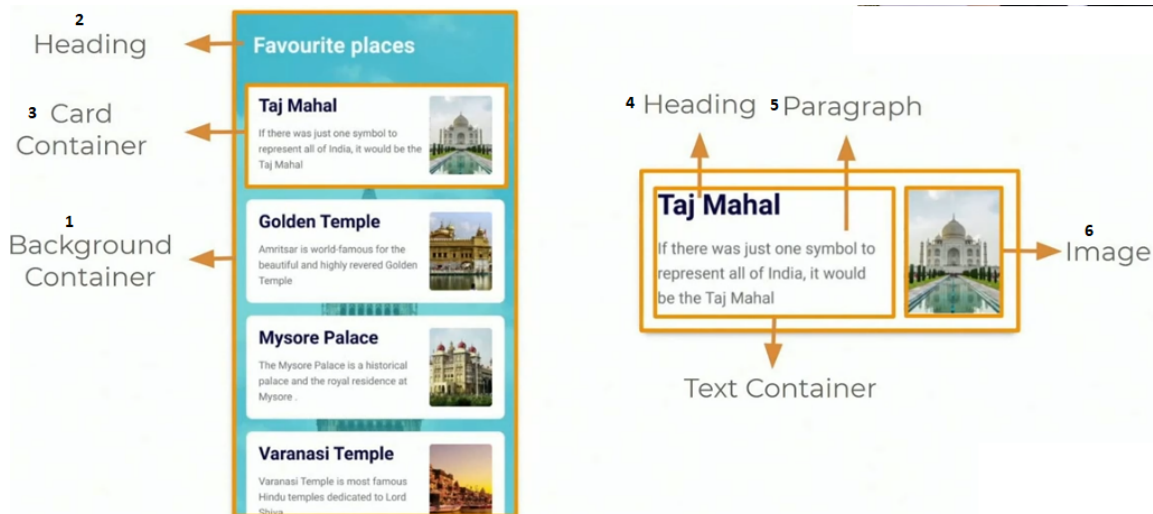
```css
@import url("https://fonts.goog
.fav-places-bg-container{
    height: 100vh;
    background-size: cover;
    background-image: url("D:/T
}

.fav-places-heading{
    color: white;
    font-family: 'Roboto';
    font-size: 28px;
    font-weight: bold;
    padding: 24px;
}

.fav-place-card-container{
    background-color: white;
    border-radius: 8px;
    padding: 16px;
    margin: 15px;
}
```

Approach to Develop a Layout

1. HTML Image vs CSS Background Image

- Ways to add Images in Website:
  - HTML Image
  - CSS Background Image
- When to use HTML Image:
  - When there are no content or HTML elements over the Image.
  - When Image is a part of the content on a page.
- When to use CSS Background Image:
  - When Image is not a part of the content on a page.
  - When there are content or HTML elements over the Image.

2. CSS Margin vs CSS Padding

- When to use CSS Padding:
  - To specify the space around the four sides of the content of an HTML element.
  - To add the space between the content and border of an HTML element.
- When to use CSS Margin:
  - To specify the space around the four sides of an HTML element.
  - To add the space between HTML elements.

In [24]:

```python
from IPython.display import Image
Image("E:/code/frontend/img/html29.png")
```

Out[24]:
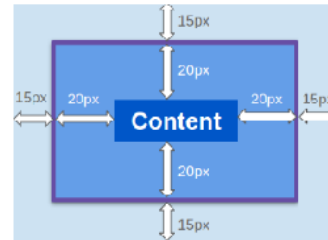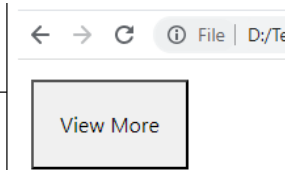
3. Step by Step Process to develop a Diwali Page

- Let's divide the Diwali Page into two Sections.
  - Top Section
  - Bottom Section
  - Go through the previous Cheat Sheets and use the suitable CSS Property and Value pairs

3.1 Top Section

- Follow the steps to develop a top Section of the Diwali Page
- Step-1: Adding a background image to the Top Section
  - Add the background image
  - Specify the height of the background image
  - Specify the background size to the image and whether to occupy up to the specified width and height or not
- Step-2: Adding a Top Section heading
  - Add the Top Section heading
  - Specify the color of the text
  - Specify the font family of the text
  - Specify the size of the text
  - Specify the width of the text (heading box)
  - Specify the padding of the text (heading box)

3.2 Bottom Section

- Follow the steps to develop a Bottom Section of the Diwali Page
- Step-1: Adding a Bottom Section Container
    - Add the background color
    - Specify the padding to the Bottom Section Container
- Step-2: Adding the card item
    - Add the background color
    - Add the image
        - Specify the width and height of the image
    - Add the name of the card item
        - Specify the color of the text
        - Specify the size of the text
    - Add the price of the card item
        - Specify the color of the text
        - Specify the size of the text
        - Specify the font weight of the text
    - Specify padding to the card item
    - Specify the text alignment of the card item
- Step-3: Aligning the card items
    - Specify margin to the card items
    - Align the pair of two cards side by side using Flexbox properties
        - Wrap two cards with the HTML container element
        - Define it as a Flexbox Container
        - Specify the Flex Direction to it
        - Specify the Justify Content to it
- Step-4: Adding the button
    - Add the button
    - Add the button bootstrap class names to it
    - Specify the text alignment of the Bottom Section Container

In [25]:

```
from IPython.display import Image
Image("E:/code/frontend/img/html30.png")
```

Out[25]:
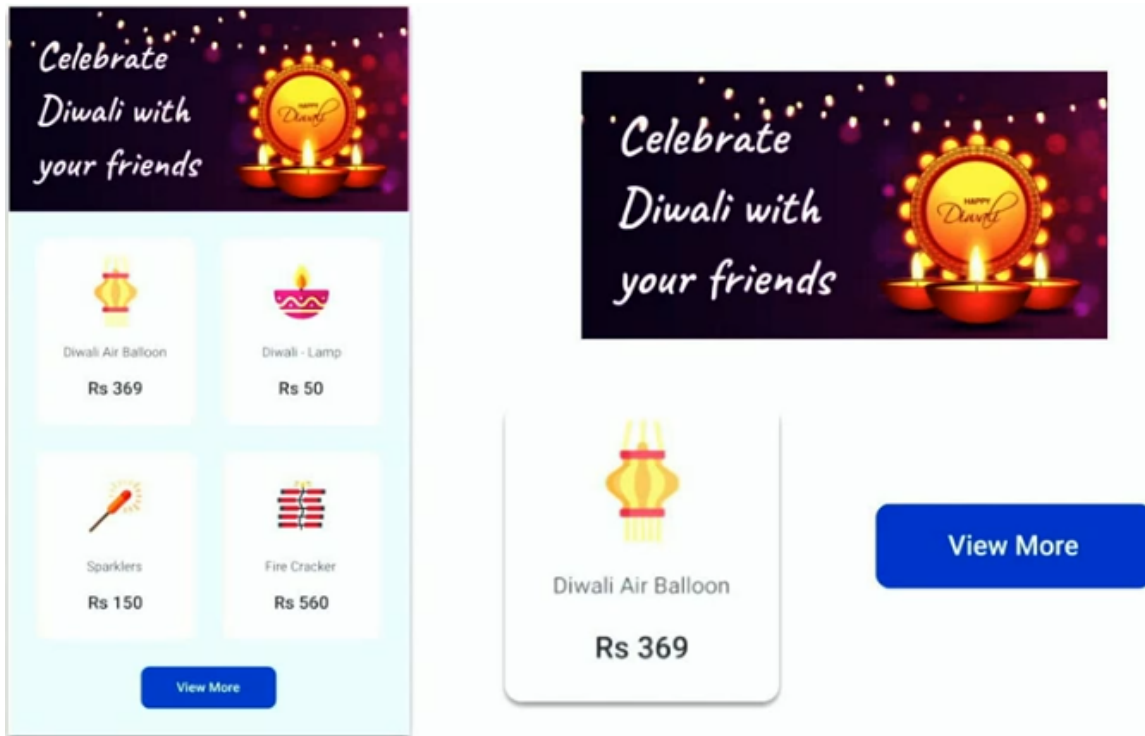

In [27]:

```
from IPython.display import Image
Image("E:/code/frontend/img/html31.png")
```

Out[27]:

```html
<body>
  <div class="diwali-top-section">
    <h1 class="diwali-top-section-heading">
      Celebrate Diwali with your friends
    </h1>
  </div>
  <div class="diwali-bottom-section">
    <div class="d-flex flex-row justify-content-center">
      <div class="diwali-card-item">
        <img
          src="D:/Tech/0.UI/code/HtmlCss1/images/lamp-img.png"
          class="diwali-card-image"/>
        <h1 class="diwali-card-name">Diwali Air Balloon</h1>
        <p class="diwali-card-price">Rs 369</p>
      </div>
      <div class="diwali-card-item">
        <img
          src="D:/Tech/0.UI/code/HtmlCss1/images/diya-img.png"
          class="diwali-card-image"/>
        <h1 class="diwali-card-name">Diwali - Lamp</h1>
        <p class="diwali-card-price">Rs 50</p>
      </div>
      <div class="d-flex flex-row justify-content-center">
        <div class="diwali-card-item">
          <img
            src="D:/Tech/0.UI/code/HtmlCss1/images/firework-img.png"
            class="diwali-card-image"/>
          <h1 class="diwali-card-name">Sparklers</h1>
          <p class="diwali-card-price">Rs 150</p>
        </div>
        <div class="diwali-card-item">
          <img
            src="D:/Tech/0.UI/code/HtmlCss1/images/firecracker-img.png"
            class="diwali-card-image"/>
          <h1 class="diwali-card-name">Fire Cracker</h1>
          <p class="diwali-card-price">Rs 560</p>
        </div>
      </div>
      <button class="btn btn-primary">View More</button>
    </div>
  </div>
</body>
```

In [29]:

```python
from IPython.display import Image
Image("E:/code/frontend/img/html32.png")
```

Out[29]:

```css
@import url("https://fonts.googleapis.com/css2?family=Bree+Serif&family=Cave

.diwali-top-section {
    background-image: url("D:/Tech/0.UI/code/HtmlCss1/images/diwali-bg.png");
    height: 30vh;
    background-size: cover;
}
.diwali-top-section-heading {
    color: white;
    font-family: "Caveat";
    font-size: 37px;
    width: 200px;
    padding-top: 36px;
    padding-left: 37px;
}
.diwali-bottom-section {
    text-align:center;
    background-color: #e6f6ff;
    padding:15px;
}
.diwali-card-item {
    text-align: center;
    background-color: white;
    width:140px;
    border-radius: 9px;
    padding: 16px;
    margin: 15px;
}

.diwali-card-image {
    height: 64px;
    width: 64px;
}
.diwali-card-name {
    color: #616e7c;
    font-family: "Roboto";
    font-size: 12px;
    font-weight: normal;
}
.diwali-card-price {
    color: #323f4b;
    font-family: "Roboto";
    font-size: 16px;
    font-weight: 500;
}
```