CSS

Introduction to CSS (Cascading Style Sheet)

Adding CSS

1.Inline

```
<tag style = "css" />
```

Code

```html
<!DOCTYPE html>
<html lang="en" style="color: blue;">

<head>
  <meta charset="UTF-8">
  <title>Inline</title>
</head>

<body>
<h1>Style Me in Blue!</h1>
</body>
```

```
</html>
```

inline.html

2.Internal

```
<style> CSS Here </style>
```

Code

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

<head>
  <style>
    html{color: red;}
  </style>
  <meta charset="UTF-8">
  <title>Internal</title>
</head>

<body>
<h1>Style Me in Red!</h1>
</body>

</html>
```

internal.html

3.External

```html
<link href = "css file name with .css">
```

Code

HTML

```
<!DOCTYPE html>
<html lang="en">
<head>
  <link rel="stylesheet" href="./style.css" />
  <meta charset="UTF-8">
  <title>External</title>
</head>
<body>
  <h1>Style Me in Green</h1>
</body>
</html>
```

CSS

```
html{
    color: green;
}
```

external.html

CSS Selectors

1.class selector

```
<h2 class = "read-text"> Red </h2>
<h2> Green </h2>
```

```
.red-text{
color:red;
}
```

2.id selector

```html
<h2 id = "main"> Read </h2>
<h2> Green </h2>
```

```css
#main {
    color : red;
}
```

3.attribute selector

```html
<p draggable = "true"> Drag Me </p>
```

```css
p[draggable]{
    color : red;
}
p[draggable = "false"]{
    color : green;
}
```

4.Universal selector

```html
<h2> Hello World </h2>
<h2> Green </h2>
```

```css
*{
    color : red;
}
```

Code

HTML

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

<head>
```

```html
    <meta charset="UTF-8">
    <title>CSS Selectors</title>
    <link rel="stylesheet" href="./solution-style.css" />
  </head>

  <body>
    <h1>CSS Selectors</h1>
    <h2>Applying CSS to Different Parts of HTML</h2>
    <!-- TODO 1: Set the CSS for all paragraph tags to "color:
    <p class="note">1. The element selector targets elements ba

    <ol>
      <!-- TODO 2: Set the CSS for all elements with a class of
      <li class="note" value="2">Class selectors target element

      <!-- TODO 3: Set the CSS for the element with an id of "i
      <li class="note" id="id-selector-demo" value="3">ID selec
        attribute.</li>

      <!-- TODO 4: Set the CSS for the li elements that have th
      <li class="note" value="4">Attribute selectors target ele

      <!-- TODO 5: Set all elements to have "text-align: center
      <li class="note" value="5">The universal selector targets
    </ol>
  </body>

</html>
```

CSS

```css
ol {
  margin-left: -40px;
  margin-top: -20px;
  list-style-position: inside;
}
```

```css
/* Write your CSS below, don't change the rules above. */

/* TODO 1: Set the CSS for all paragraph tags to "color: red;
p {
  color: red;
}

/* TODO 2: Set the CSS for all elements with a class of "note
.note {
  font-size: 20px;
}

/* TODO 3: Set the CSS for the element with an id of "id-sele
#id-selector-demo {
  color: green;
}

/* TODO 4: Set the CSS for the li elements that have the "val
li[value="4"] {
  color: blue;
}

/* TODO 5: Set all elements to have "font-family: sans-serif;
* {
  text-align: center;
}
```

CSS Selectors

Applying CSS to Different Parts of HTML

1. The element selector targets elements based on their HTML tag name.
2. Class selectors target elements based on the value of the class attribute.
3. ID selectors target elements based on the value of the id attribute.
4. Attribute selectors target elements based on their attributes and values.
5. The universal selector targets all elements.

CSS Properties

1. Colors in CSS

HTML

```
<h1> Hello World </h1>
<h2> Hello World </h2>
```

CSS

```
html{
    background-color : antiquewhite;
}
h1{
    color : whitesmoke;
    background-color : darkseagreen;
}
h2{
    color : #FAF8F1;
    background-color : #C5894;
}
```

Code 0.1

HTML

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

<head>
  <meta charset="UTF-8">
  <title>Spanish Vocabulary</title>
  <link rel="stylesheet" href="./style.css" />
</head>

<body>
  <h1>Colors</h1>
  <h2>Learn the colors in Spanish!</h2>
  <h2 class="color-title" id="red">Rojo</h2>
  <img class="color" src="./assets/images/red.png" alt="red"

  <h2 class="color-title" id="blue">Azul</h2>
  <img src="./assets/images/blue.png" alt="blue" />

  <h2 class="color-title" id="orange">Anaranjado</h2>
  <img src="./assets/images/orange.png" alt="orange" />

  <h2 class="color-title" id="green">Verde</h2>
  <img src="./assets/images/green.png" alt="green" />

  <h2 class="color-title" id="yellow">Amarillo</h2>
  <img src="./assets/images/yellow.png" alt="yellow" />
</body>

</html>


<!--
TODOs
IMPORTANT: You should not need to make ANY CHANGES to index.h
All code should be written in your CSS file.

1. Create a CSS file and incorporate it as an external styles
2. Use CSS to style each of the color titles to meaning.
Hint: Use the id to help if you don't know the words in spani
```

```
3. Use CSS to change all the color titles to have "font-weigh
4. Use CSS (not HTML) to make all the images 200px heigh and
Hint:
https://developer.mozilla.org/en-US/docs/Web/CSS/height
https://developer.mozilla.org/en-US/docs/Web/CSS/width
-->
```

CSS

```css
.color-title{
    font-weight: normal;
}

img{
    height: 200px;
    width: 200px;
}

#red{
    color: red;
}
#blue{
    color: blue;
}
#orange{
    color:orange;
}
#green{
    color: green;
}
#yellow{
    color: yellow;
}
```

Colors

Learn the colors in Spanish!

Rojo

Azul

Anaranjado

(handwritten annotations)
1. font-weight: normal;
2. color of text matches meaning.

200px
200px

Code 0.2

HTML

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

<head>
  <link rel="stylesheet" href="./style.css" />
  <meta charset="UTF-8">
  <title>Colors</title>
  <style>
  /* Write your CSS code here. */
    /* 1. Make the background of the webpage "antiquewhite"
    2. Make the h1 "whitesmoke"
    3. Make the background of the h1 "darkseagreen"
    4. Make the h2 #FAF8F1
    5. Make the background of the h2 "#C58940" */
  </style>
</head>
```

```
<body>
  <h1>Hello</h1>
  <h2>World</h2>
</body>


</html>
```
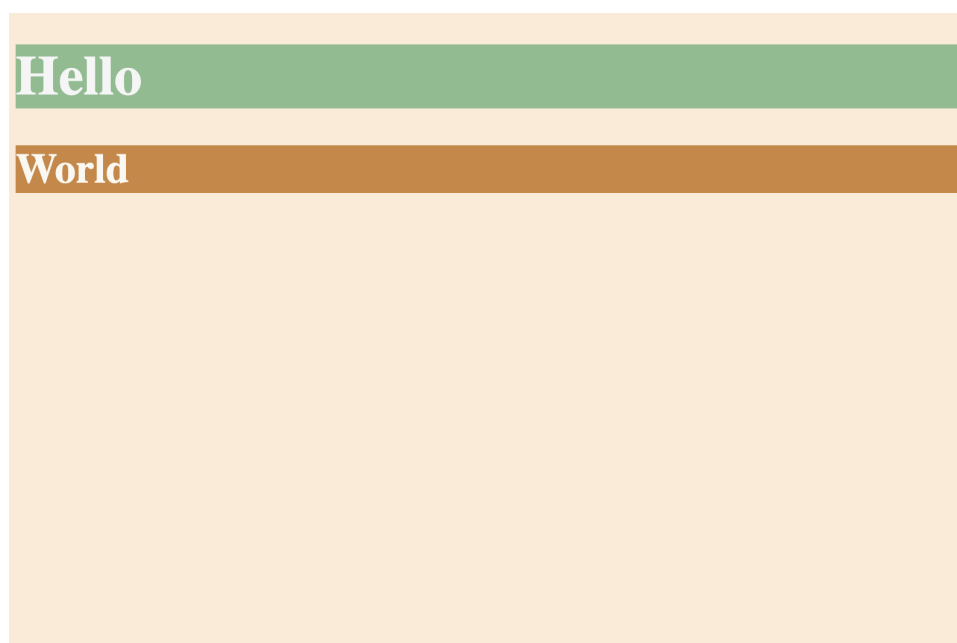
CSS

```
html{
    background-color: antiquewhite;
}

h1{
    color:whitesmoke;
    background-color: darkseagreen;
}

h2{
    color: #FAF8F1;
    background-color: #C58940;
}
```

2. Font Properties

HTML

```
<h1> Hello World </h1>
```

CSS

```
h1{
    color : blue;
    font-weight : bolt;
    font-size : 20px;
    font-family : "Times New Roman", sans-serif;
    text-align : center;
}
```

Note

- 1px = 1/96th inch (0.26mm)

- 1pt = 1/72 inch (0.35mm)

- font weight = 100 to 900, lighter or bolder

- font family = Helvetica, sans serif

CSS Inspection

The box model in HTML and CSS

1. Content division element (Box)

```
<div> Body </div>
<div class = "my_class"> Body </div>
<div id = "my_id"> Body </div>
```

Code

HTML

```
<body>
<div>
    <p> Hello World </p>
```

```html
        <img src = "./world.png" />
        <div>
            <p> Good Night </p>
            <img src = "./night-world.png" />
        </div>
    </div>
</body>
```

Code

HTML

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

<head>
  <meta charset="UTF-8">
  <title>CSS Box Model</title>
<!-- Internal -->
  <style>
    /* Write your CSS code here */
    div{
      height:200px;
      width: 200px;
    }
    p{
      margin:0px;
    }

    #first{
      background-color: cadetblue;
      border:10px solid black;
      padding: 20px;
    }

    #second{
      background-color: gold;
      border:solid black;
      border-width: 20px 10px;
```

```css
        margin-left: 260px;
      }


      #third{
        background-color: indianred;
        border: 10px solid black;
        margin-left: 40px;
      }
    </style>
  </head>


  <body>



    <!-- TODOs:
1. Create 3 Boxes using the div element.
2. Set their sizes to 200px heigh by 200px wide.
3. Set different background colors for each of the boxes (I u
4. Add a paragraph <p> element into the first div and add the
      Lorem ipsum dolor sit amet, consectetur adipiscing elit.
      id magna pulvinar, ultricies lorem id, vehicula elit. Ali
      dolor metus, laoreet ac convallis sit amet, efficitur sed
5. Set the 1st div to have 20px padding all around with a bla
6. Fix the style of the <p> element to remove all margins.
Hint: Use the CSS inspector in Chrome.
7. Set the 2nd div to have a 20px border on top and bottom an
8. Set the 3rd div to have a 10px border
9. Set the margins for the divs so that each box corner touch
-->
    <div id="first">
      <p>
        Lorem ipsum dolor sit amet, consectetur adipiscing elit.
        id magna pulvinar, ultricies lorem id, vehicula elit. Ali
        dolor metus, laoreet ac convallis sit amet, efficitur sed
      </p>
    </div>
    <div id="second">
```
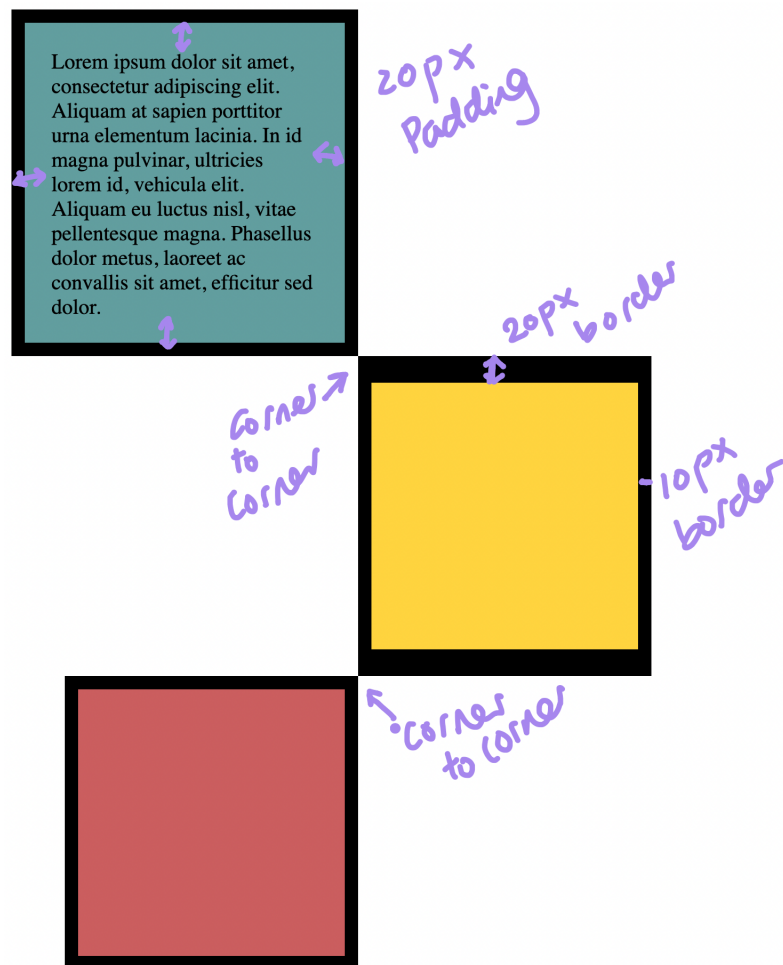
```
</div>
<div id="third">

</div>
</body>

</html>
```


Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aliquam at sapien porttitor urna elementum lacinia. In id magna pulvinar, ultricies lorem id, vehicula elit. Aliquam eu luctus nisl, vitae pellentesque magna. Phasellus dolor metus, laoreet ac convallis sit amet, efficitur sed dolor.

20px Padding

20px border

-10px border

Corner to corner

.corner to corner

CSS - Specificity and Inheritance

Code

HTML

```
<ol>
    <li> One </li>
```

```
    <li style = "color:red"> Two </li>
</ol>
```

CSS

```
li{
    color : green;
}
```

CSS Cascade Rules

1. Position Rule

Code

HTML

```
<ol>
    <li> Hello World </ol>
</ol>
```

CSS

```
li{
    color : red;
    color : green;
}
//will be green
```

2. Specificity Rule

Code

HTML

```
<ol>
    <li id = "first-id" class = "first-class" draggable> Hell
</ol>
```

CSS

```css
li{
    color : blue;
}
.first-class{
    color : red;
}
#first-id{
    color : green;
}
li[draggable]{
    color : purple;
}
```

3. Type Rule

Code

HTML

```html
<link rel = "stylesheet" href = "./style.css">
<style> </style>
<h1 style = " "> Hello </h1>
```

4. Importance Rule

Code

HTML

```html
<h1> Hello World </h1>
```

CSS

```css
h1{
    color : red;
    color : green !important;
}
```

Combining CSS Selectors

Code

HTML

.inner-box is the class and 'p' is the descendent in class .inner-box

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <link rel = "style_sheet" href="styles.css" />
    <meta charset="UTF-8">
    <style>
        p{
            color : yellow
        }
        .inner-box p{
            color : blue;
        }
    </style>
    <title>Document</title>
</head>
<body>
    <p> Yellow Text </p>
    <div class="box inner-box">
        <p> Blue Text </p>
    </div>
</body>
</html>
```

Yellow Text

Blue Text

Combine CSS Selectors Rules

1. Group Selector Rule

Apply to both 'n' number of selectors selectors. (" , ").

```css
selector1 ,selector2 {
    color : red;
}
```

Code

HTML

```html
<h1> Hello </h1>
<h2> World </h2>
```

CSS

```css
h1, h2{
    color : purple;
}
```

2. Child Selector Rule

Apply to parent and child from selectors. (" > "). Apply to direct child of left side.

```css
parent-selector, child-selector{
    color : red;
}
```

Code

HTML

```html
<!-- has same class name to paragraph and list tag -->
<div class="box">
    <p class="done"> Hello World </p>
    <ol>
        <li class="done"> No 1 </li>
    </ol>
</div>
```

CSS

```css
.box > p{
    color : red;
}
```

3. Descendant Selector Rule

Apply to descendent of left side

```css
ancistor-selector descenent-selector{
    color : red;
}
```

```
+--class1 //ancistor
|  +--class2
|  |  +--
|  |  |  <p>  //descendent
|  |  +--
|  +---
+---
```

Code

HTML

```html
<div class="box">
    <p class="done"> Hello World </p>
    <ul class="list">
        <li> Element 1 </li>
        <li> Element 2 </li>
    </ul>
</div>
```

CSS

```css
.box li{
    color : red;
}
```

4. Chaining Selector Rule

Apply when ALL selectors are true

```css
/* no space between selectors */
selector1selector2{
    color : red;
}
```

Code

HTML

```html
<p class="done"> Hello World </p>
<ul class="list">
    <li> Element 1 </li>
    <li id="done-id" class="done"> Element 2 </li>
    <li class="done"> Element 3 </li>
</ul>
<!-- give color to list Element 2 as red -->
<!-- color Element 3 as green -->
```

CSS

```css
li#done-id.done{
    color : red;
}
li.done{
    color : green;
}
```

4. Combine Combiners Selector Rule

```css
ancistor-selector chaining-selector1selector2{
    font-size : 2rem;
}
```

Code

HTML

```html
<p class="done"> Hello World </p>
<ul>
    <p class="done"> Element </p>
</ul>
<!-- change the color of Element which is inside the ul -->
```

CSS

```css
ul p.done{
    color : red;
}
```

Exercise Code

HTML

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

<head>
  <meta charset="UTF-8">
  <title>Combining CSS Selectors</title>
  <link rel="stylesheet" href="./style.css">
</head>

<!-- Don't change any of the HTML code! -->

<body>
  <h1>To Do List</h1>
  <h2>Monday</h2>
  <div class="box">
    <p class="done">Do these things today!</p>
    <ul class="list">
      <li>Wash Clothes</li>
      <li class="done">Read</li>
      <li class="done">Maths Questions</li>
    </ul>
  </div>
```

```html
  <ul>
    <p class="done">Other items</p>
  </ul>
  <p>The best preparation for tomorrow is doing your best tod

</body>

</html>
```

CSS

```css
/* Group Rule */
h1,h2{
    color: blueviolet;
}
/* Child Rule */
.box > p{
    color: firebrick;
}
/* Descendent Rule */
.box li{
    color: blue;
}
/* Chaining Rule */
li.done{
    color: seagreen;
}
/* Combining Combiners Rule */
ul p.done{
    font-size: 0.5rem;
}
```

Output

To Do List

Monday

Do these things today!

- Wash Clothes
- Read
- Maths Questions

Other items

The best preparation for tomorrow is doing your best today.

CSS Positioning

- Relative, Absolute, Fixed, Static Positioning

1. Static Positioning

HTML default flow

Static Positioning

```
position: static;
left: 50px;
top: 50px;
```
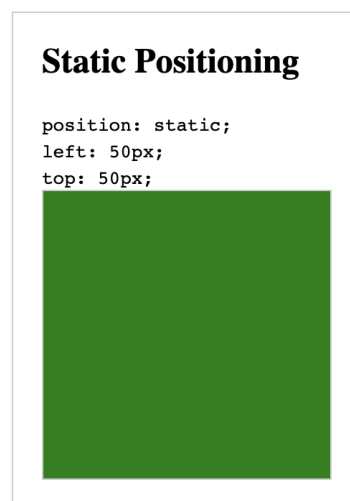
2. Relative Positioning

Position relative to default position

**Relative
Positioning**

```
position: relative;
left: 50px;
top: 50px;
```
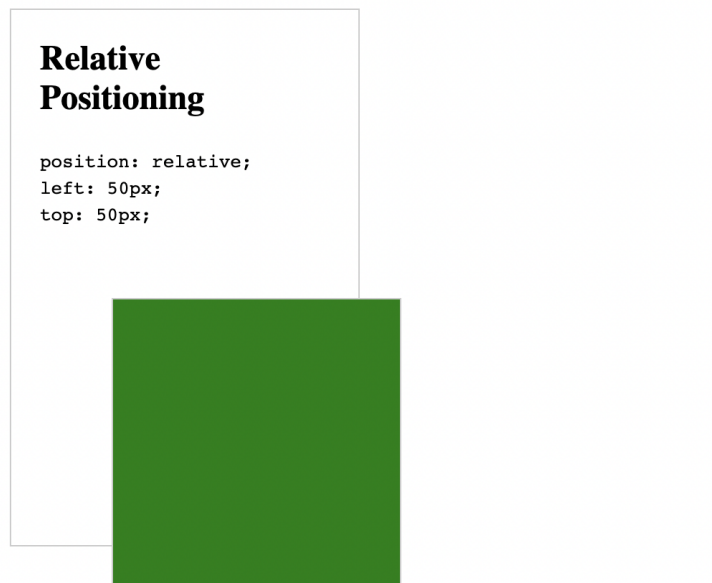
3. Absolute Positioning

Position related to nearest positioned ancestor or top left corner of webpage

CSS Positioning Demo

| Static Positioning | Relative Positioning | Absolute Positioning | Fixed Positioning |

**Absolute
Positioning**

```
position:
absolute;
top: 50px;
left: 50px;
```
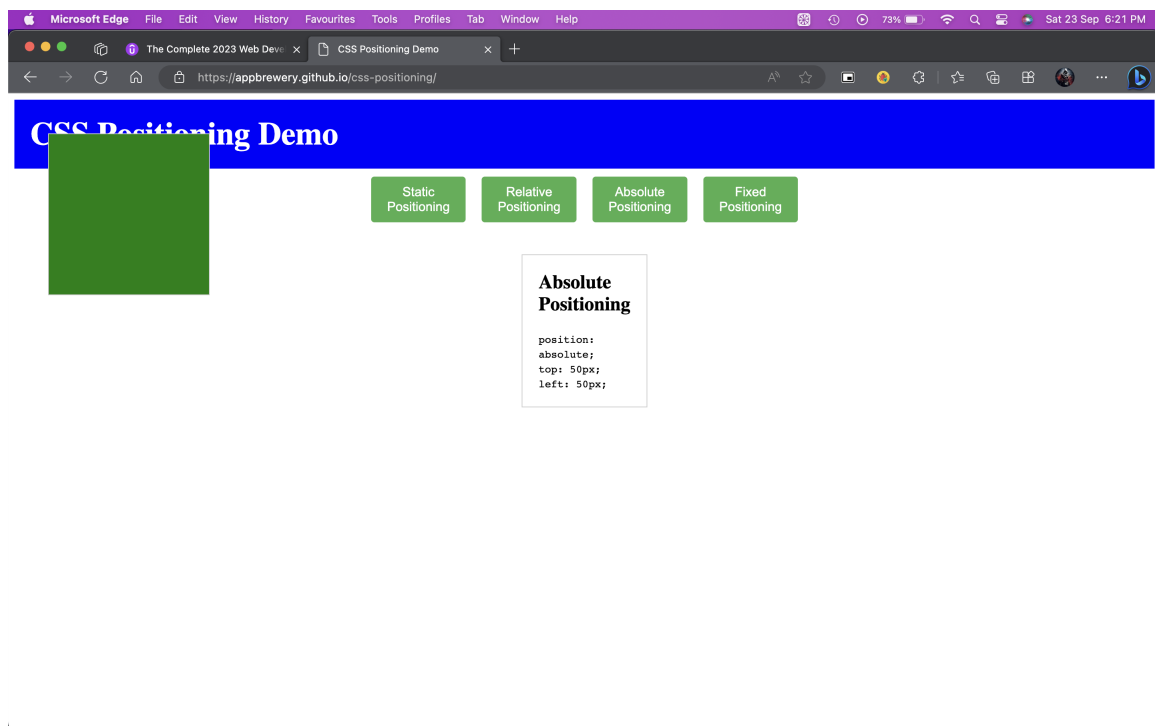
relative and absolute as parent and children.

Also remember the point of Z-Index
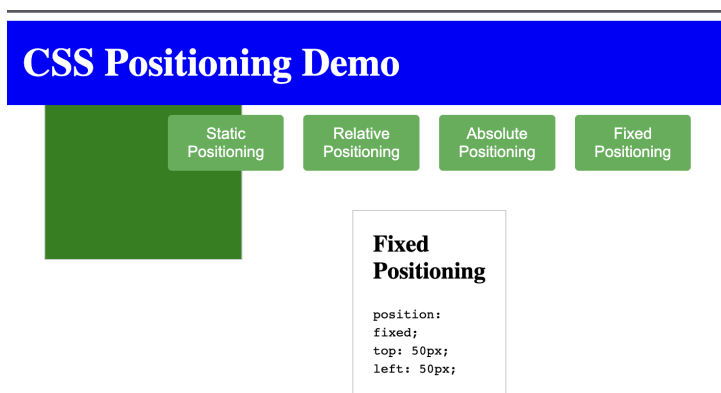
4. Fixed Positioning

Position related to top left corner of browser window
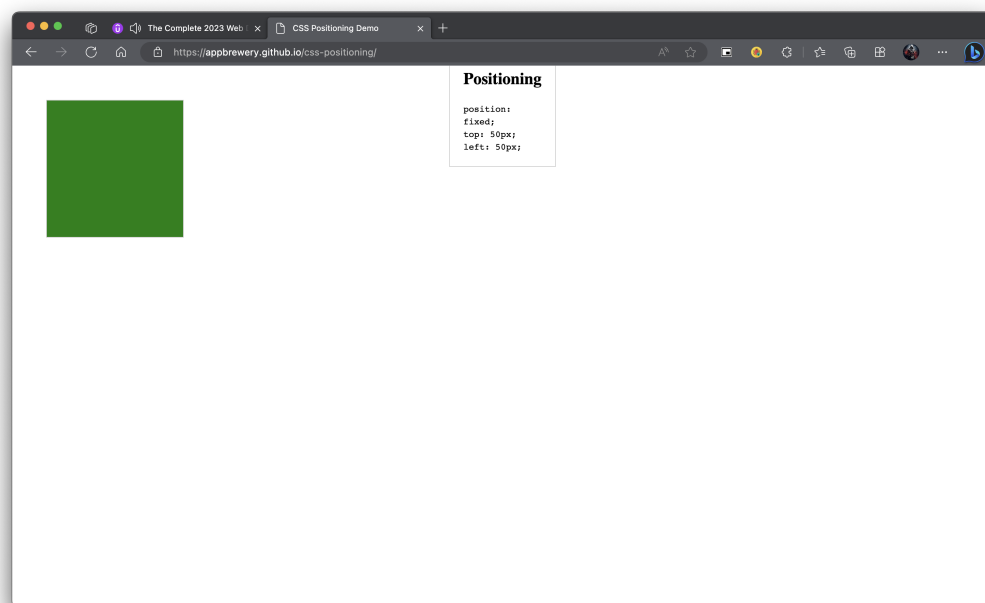
Create Circle in HTML CSS

Code

HTML

```
<!DOCTYPE html>
<html>


<head>
```

```html
<title>CSS Positioning Exercise</title>
<style>
  /* Write your code here */
  .red-circle{
    background-color: red;
    width: 200px;
    height: 200px;
    border-radius: 50%;
  }
</style>
</head>

<body>
    <div class="red-circle">
    </div>
</body>

</html>
```
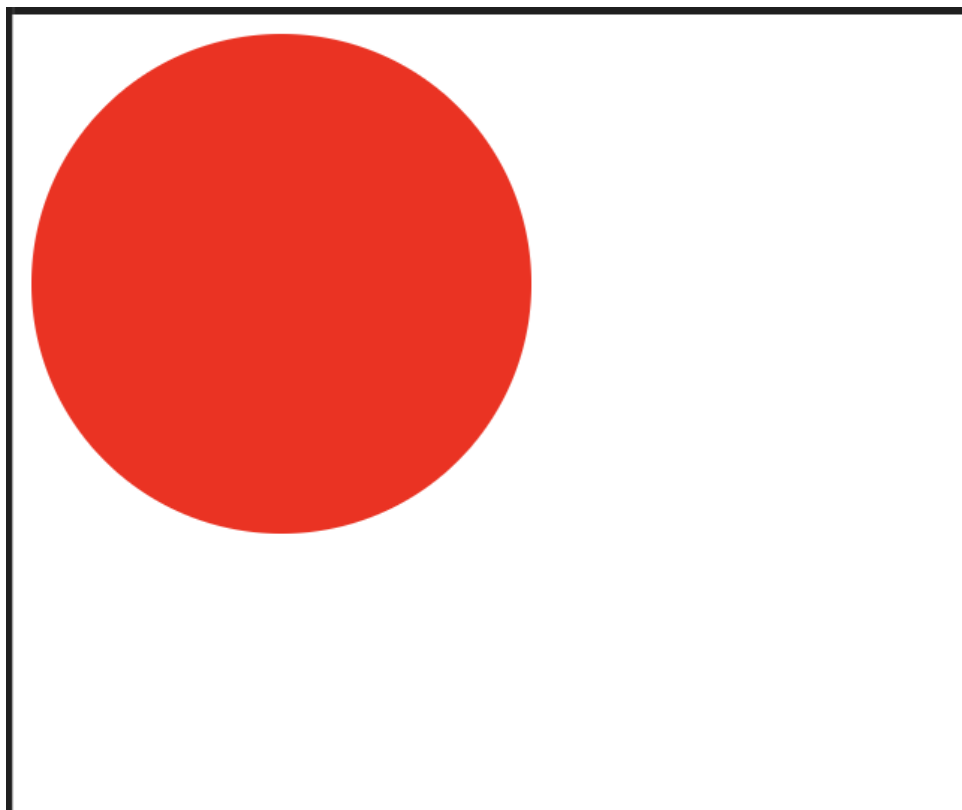
Output

Positioning In HTML to elements Syntax

HTML

```html
<div class="blue-box">
</div>
```

CSS

```css
position: static;
position:relative;
position: absolute;
position: fixed;

left: 0px;
right: 0px;
top: 0px;
bottom: 0px;
```

```css
.blue-box{
          background-color: blue;
     width: 500px;
     height: 300px;
     position: relative;
     top: 200px;
     left: 200px;
}
```

Exercise Code

HTML

```html
<!DOCTYPE html>
<html>

<head>
  <title>CSS Positioning Exercise</title>
  <style>
```

```css
      /* Write your code here */
      .red-circle{
        background-color: red;
        width: 200px;
        height: 200px;
        border-radius: 500px; /* or 50% */
        position: absolute;
        top: 150px;
        left: 250px;
      }
      .blue-box{
        background-color: blue;
        width: 500px;
        height: 300px;
        position: relative;
        top: 200px;
        left: 200px;
      }

    </style>
  </head>

<body>
  <div class="blue-box">
    <div class="red-circle">
    </div>
  </div>

</body>

</html>
```

Output

Flag Project

HTML & CSS

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

<head>
  <meta charset="UTF-8">
  <title>CSS Flag Project</title>
  <style>
    /* Write your CSS Code here */
    .flag{
      width: 900px;
      height: 600px;
      background-color: red;
      position: relative;
    }

    .flag > div{
      width: 100%;
      height: 300px;
      background-color: blue;
      position: absolute;
```
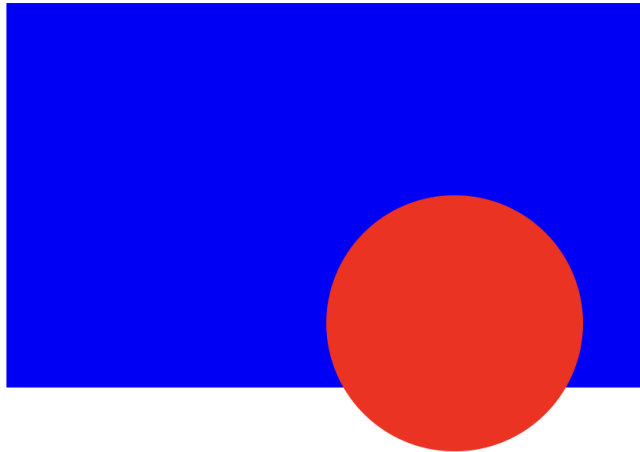
```
      top: 150px;
    }
    .flag > div > div{
      width: 200px;
      height: 200px;
      background-color: white;
      border-radius: 50%;
      position: relative;
      top: 50px;
      left: 350px;
    }
    p{
      margin: 0px;
      font-size: 5rem;
      text-align: center;
    }
    .flag > p{
      color: white;
    }
  </style>
</head>

<!--
  IMPORTANT! Do not change any HTML
Don't add any classes/ids/elements
Use what you know about combining selectors
and CSS specificity instead.
Hint 1: The flag is 900px by 600px and the circle is 200px by
Hint 2: You can use CSS inspection to get the colors from
https://appbrewery.github.io/flag-of-laos/
-->

<body>
  <div class="flag">
    <p>The Flag</p>
    <div>
      <div>
        <p>of Laos</p>
```

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

</html>
```

Output

🔰 Advance CSS