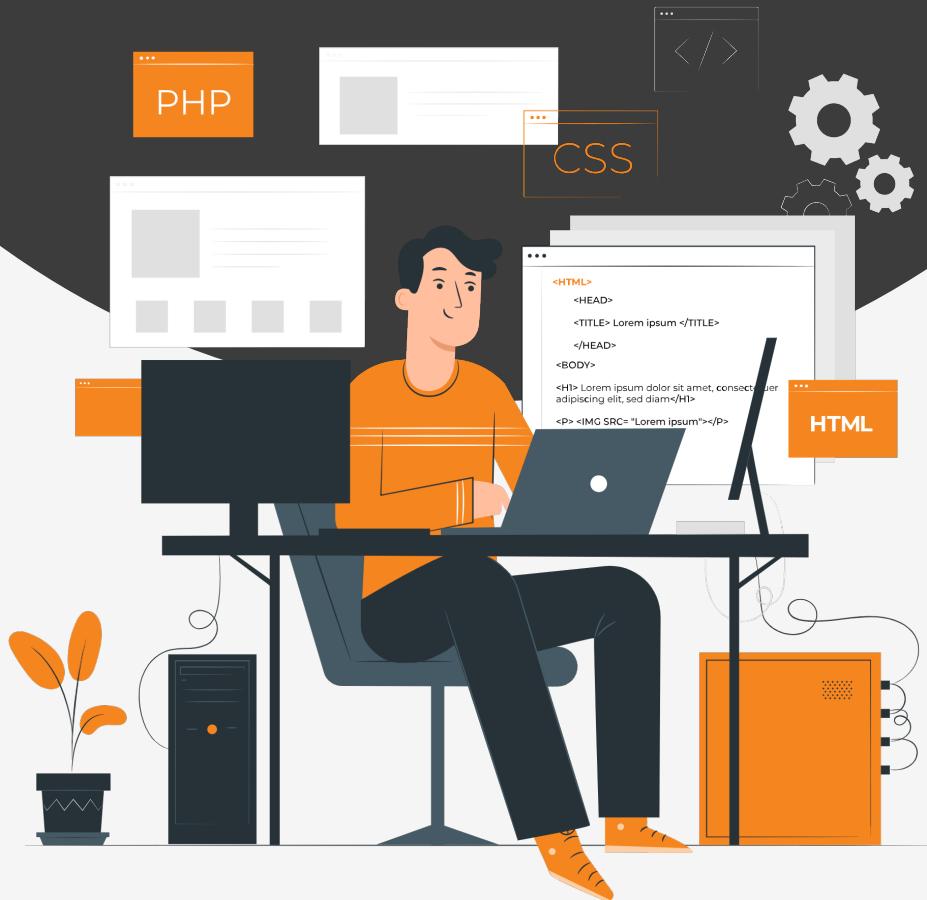


Lesson:

CSS Positions (Part 2)



Topics Covered

- Absolute vs Relative
- Sticky Positioning
- Fixed Positioning
- Fixed vs Sticky

Absolute vs Relative

Before we move to other positioning techniques, let's differentiate between absolute positioning and relative positioning.

Relative	Absolute
With relative positioning, an element can be moved up, down, left, or right from its normal position.	With absolute positioning, an element is positioned relative to its nearest positioned ancestor.
It will not break the normal document flow to position the element on the page.	It will break the normal document flow to position the element on the page.
The element will leave the space at its original position & other content will not be adjusted to fit into any gap left by the element.	The element will not leave any space in its original position.

Fixed Positioning

Fixed positioning is similar to absolute positioning, but the element is positioned relative to the viewport instead of an ancestor element. This means that the element stays in the same position even if the user scrolls the web page.

Fixed positioning is often used for headers, footers, or other elements that need to remain visible at all times.

Properties of position fixed

- It will break the normal document flow to position the element on the page.
- The properties like top, left, right, bottom, and z-index will have an effect on the element.
- The element will not leave any space in its original position.

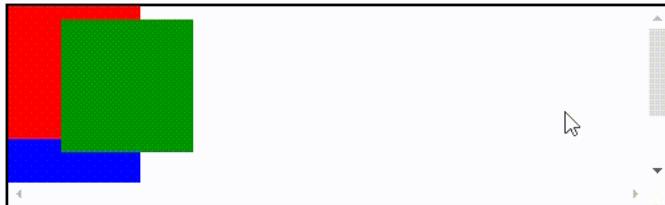
Example: Let's apply CSS fixed position to **box2**.

Unset

```
/* style.css */
.container {
    border: 2px solid black;
    height: 150px;
    width: 500px;
    position: relative;
    overflow: scroll;
}

.box2 {
    position: fixed;
    top: 100px;
    left: 100px;
    background-color: green;
}
```

Browser Output



In the output of the above code, we can easily see that **box2** is maintaining its fixed position even if the user is scrolling and other page content is moving.

Note: The overflow property in CSS determines what happens to the content that is too large to fit in an element's box. We are using it here for better visualization of the example and will learn more about it in further classes.

Sticky Positioning

An element with sticky positioning is positioned relative to its nearest ancestor with a scrolling mechanism, which means that the element behaves like a relatively positioned element until the user scrolls to a certain point, and then it becomes fixed to the viewport.

This type of positioning is often used for sticky navigation bars or headers.

Properties of position sticky

- It will not break the normal flow of the document to position the element on the page.
- It toggles between the position relative and fixed. It will behave like a relative position unless it reaches the given position, after reaching the given position it will behave like a fixed position.
- The properties like top, left, right, bottom, and z-index will have an effect on the element.

Example:

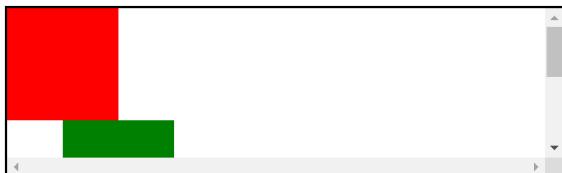
```
Unset
/* style.css */

.container {
    border: 2px solid black;
    height: 150px;
    width: 500px;
    position: relative;
    overflow: scroll;
}

.box2 {
    background-color: green;
    position: sticky;
    top: 10px;
    left: 50px;
}
```

Browser Output

This is a wrapper box



Fixed vs Sticky

Fixed and Sticky positioning techniques have a few differences, let's list them here.

Fixed	Sticky
The element is positioned relative to the viewport.	Element behaves like a relatively positioned element until the user scrolls to a certain point, and then it becomes fixed to the viewport.
It will break the normal document flow to position the element on the page.	It will not break the normal flow of the document to position the element on the page.

Examples:

1. Portfolio Hero section

Let's build the below page to understand the use case of absolute and relative position.

* Hi, From Alex *

Software Developer

I specialize in crafting efficient, scalable, and user-friendly software applications. Throughout my journey in the software development realm, I've had the privilege to work on diverse projects that span across industries, from e-commerce and healthcare to finance and gaming.



First, let's write our HTML code for the above page.

index.html

```
JavaScript
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width,
initial-scale=1.0" />
    <title>Street Style Landing Page</title>
    <link rel="stylesheet" href="css/style.css" />
  </head>
  <body>
    <div class="main">
      <div class="content">
        <div class="hero-top">
          
          
          <h1 class="hero-heading">Hi, From Alex</h1>
          <h1 class="hero-subheading">Software Developer</h1>
          <p class="hero-para">
            I specialize in crafting efficient, scalable, and
            user-friendly
            software applications. Throughout my journey in the software
            development realm, I've had the privilege to work on diverse
            projects that span across industries, from e-commerce and
            healthcare
            to finance and gaming.
          </p>
        </div>
        <div class="hero-bottom">
          
          
        </div>
      </div>
    </div>
  </body>
</html>
```

Let's write basic CSS to give basic styling and layout to our page.

index.css

```
Unset
@import
url("https://fonts.googleapis.com/css2?family=Orbitron:wght@400;500;600;
700;800&display=swap");
@import
url("https://fonts.googleapis.com/css2?family=Orbitron:wght@700;800&fami
ly=Poppins:wght@400;500&display=swap");

* {
  padding: 0px;
  margin: 0px;
  outline: 0px;
}

.main {
  margin: 50px 100px;
}

.profile {
  width: 300px;
}

.hero-top {
  text-align: center;
  width: 800px;
  margin: auto;
}

.hero-heading {
  margin-top: 20px;
  font-size: 42px;
  font-family: "Orbitron", sans-serif;
}

.hero-subheading {
  margin-top: 5px;
  font-size: 20px;
  font-family: "Orbitron", sans-serif;
}

.hero-para {
  margin-top: 20px;
  font-family: "Poppins", sans-serif;
  color: #6d6d6d;
}

.hero-bottom {
  width: 300px;
  margin: auto;
  margin-top: 30px;
  text-align: center;
}
```

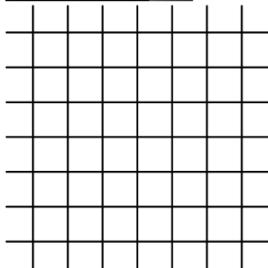
This is how it looks as of now,



Hi, From Alex

Software Developer

I specialize in crafting efficient, scalable, and user-friendly software applications. Throughout my journey in the software development realm, I've had the privilege to work on diverse projects that span across industries, from e-commerce and healthcare to finance and gaming.



We can see two problems,

- Stars are not at right position
- Mesh is also not at right position

Let's place them one by one,

1. Placing stars using absolute position

```
Unset
/* placing stars using absolute position */
.star1 {
  width: 50px;
  position: absolute;
  left: 400px;
  top: 30px;
}

.star2 {
  width: 50px;
  position: absolute;
  right: 400px;
  top: 30px;
}
```

Output

* Hi, From Alex *

Software Developer

I specialize in crafting efficient, scalable, and user-friendly software applications. Throughout my journey in the software development realm, I've had the privilege to work on diverse projects that span across industries, from e-commerce and healthcare to finance and gaming.

2. Placing mesh using relative position.

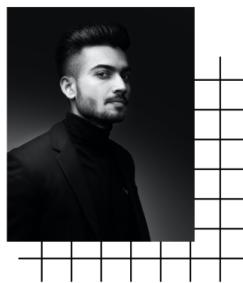
```
Unset
/* placing mesh using relative position */
.mesh {
  position: relative;
  width: 300px;
  bottom: 250px;
  left: 40px;
  z-index: -1; /* we will study z-index in next lesson */
}
```

Final Output

* Hi, From Alex *

Software Developer

I specialize in crafting efficient, scalable, and user-friendly software applications. Throughout my journey in the software development realm, I've had the privilege to work on diverse projects that span across industries, from e-commerce and healthcare to finance and gaming.



In the above code, we have placed the mesh, using relative positioning by providing positions bottom, left (300px, 250px respectively) relative to its normal position. And we are done!!! It looks exactly as expected.

2. Chat Icon

Let's build a page with a chat icon, to show the difference between fixed and sticky.

index.html

```
Unset
<body>
  <section>
    <article>
      <h2> The Nature </h2>
      <p>
        "The Nature" is a profound and timeless concept that
        encompasses the entire physical world, including all living organisms,
        landscapes, ....
      </p>
    </article>

    <div class="chat-icon">
      
    </div>

    <!-- other content for scrolling-->
  </section>
</body>
```

index.css

```
Unset
.chat-icon{
  width: fit-content;
  float: right;
}

h2, p{
  padding-left: 20px;
  padding-right: 20px;
}
```

index.css

The Nature

"The Nature" is a profound and timeless concept that encompasses the entire physical world, including all living organisms, landscapes, and the fundamental forces that govern our universe. It is a source of endless wonder and inspiration for humanity, often evoking a sense of awe and reverence. From the majestic beauty of pristine forests and soaring mountain ranges to the delicate intricacies of a single flower or the awe-inspiring power of natural phenomena like thunderstorms and ocean tides, "The Nature" encompasses the breadth and depth of our planet's ecological and geological diversity. The intricate web of life plays a vital role in sustaining all living beings, offering essential resources such as clean air, fresh water, and nourishing food. Additionally, it provides a sanctuary for countless species, each contributing to the intricate tapestry of biodiversity that enriches our world. Beyond its practical significance, "The Nature" holds a deep spiritual and emotional connection, fostering a sense of awe, wonder, solace, inspiration, and a reminder of our interconnectedness with the natural world.

Humans

Humans, scientifically known as *Homo sapiens*, are remarkable creatures that possess an unmatched ability to



In the above output, we can see that the chat icon moves out of the screen on scrolling, but we want it to be inside the screen. Now, let's see the difference in output when we change the position of our chat icon to position: sticky or position: fixed.

Sticky	Fixed
<pre>Unset .chat-icon{ position: sticky; top:20px; right:20px; width: fit-content; float: right; }</pre>	<pre>Unset .chat-icon{ position: fixed; bottom:20px; right:20px; width: fit-content; float: right; }</pre>
<p>The Nature</p> <p>"The Nature" is a profound and timeless concept that encompasses the entire physical world, including all living organisms, landscapes, and the fundamental forces that govern our universe. It is a source of endless wonder and inspiration for humanity, often evoking a sense of awe and reverence. From the majestic beauty of pristine forests and soaring mountain ranges to the delicate intricacies of a single flower or the awe-inspiring power of natural phenomena like thunderstorms and ocean tides, "The Nature" encompasses the breadth and depth of our planet's ecological and geological diversity. This intricate web of life plays a vital role in sustaining all living beings, offering essential resources such as clean air, fresh water, and nourishing food. Additionally, it provides a sanctuary for countless species, each contributing to the intricate tapestry of biodiversity that enriches our world. Beyond its practical significance, "The Nature" holds a deep spiritual and emotional connection for many, serving as a source of solace, inspiration, and a reminder of our interconnectedness with the natural world.</p> <p>Humans</p> <p>Humans, scientifically known as <i>Homo sapiens</i>, are a remarkable species that have thrived and evolved in the</p>	<p>The Nature</p> <p>"The Nature" is a profound and timeless concept that encompasses the entire physical world, including all living organisms, landscapes, and the fundamental forces that govern our universe. It is a source of endless wonder and inspiration for humanity, often evoking a sense of awe and reverence. From the majestic beauty of pristine forests and soaring mountain ranges to the delicate intricacies of a single flower or the awe-inspiring power of natural phenomena like thunderstorms and ocean tides, "The Nature" encompasses the breadth and depth of our planet's ecological and geological diversity. This intricate web of life plays a vital role in sustaining all living beings, offering essential resources such as clean air, fresh water, and nourishing food. Additionally, it provides a sanctuary for countless species, each contributing to the intricate tapestry of biodiversity that enriches our world. Beyond its practical significance, "The Nature" holds a deep spiritual and emotional connection for many, serving as a source of solace, inspiration, and a reminder of our interconnectedness with the natural world.</p> <p>Humans</p> <p>Humans, scientifically known as <i>Homo sapiens</i>, are a remarkable species that have thrived and evolved in the</p>
<p>We can see that, the chat icon gets stick at the top.</p>	<p>In this case, we can see that the chat icon is fixed at its position.</p>