

CHAPTER ELEVEN IV

11.4.0 CSS HSL Colors

HSL stands for hue, saturation, and lightness.

11.4.1 HSL Value

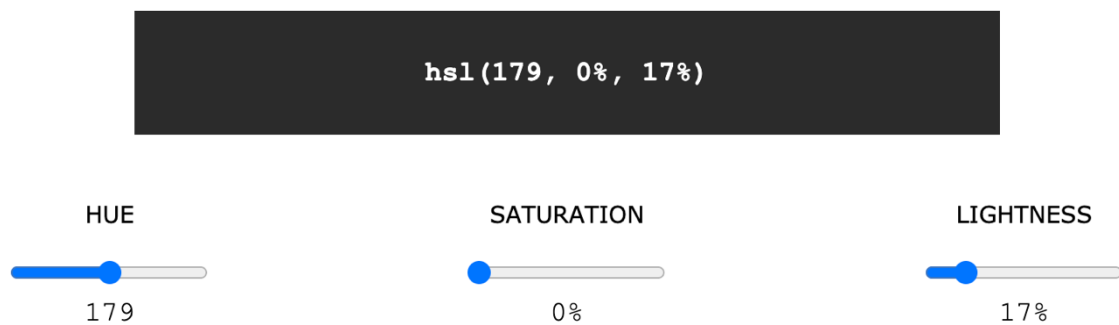
In CSS, a color can be specified using hue, saturation, and lightness (HSL) in the form: **`hsl(hue, saturation, lightness)`**.

Hue is a degree on the color wheel from 0 to 360. 0 is red, 120 is green, and 240 is blue.

Saturation is a percentage value, 0% means a shade of gray, and 100% is the full color.

Lightness is also a percentage, 0% is black, 50% is neither light or dark, 100% is white.

Experiment by mixing the HSL values below:



Example

<code>hsl(0, 100%, 50%)</code>	<code>hsl(240, 100%, 50%)</code>
<code>hsl(147, 50%, 47%)</code>	<code>hsl(300, 76%, 72%)</code>
<code>hsl(39, 100%, 50%)</code>	<code>hsl(248, 53%, 58%)</code>

```
<!DOCTYPE html>
```

```
<html>
```

```
  <body>
```

```
    <h1 style="background-color:hsl(0, 100%, 50%);">hsl(0, 100%, 50%)</h1>
```

```
    <h1 style="background-color:hsl(240, 100%, 50%);">hsl(240, 100%, 50%)</h1>
```

```
    <h1 style="background-color:hsl(147, 50%, 47%);">hsl(147, 50%, 47%)</h1>
```

```
    <h1 style="background-color:hsl(300, 76%, 72%);">hsl(300, 76%, 72%)</h1>
```

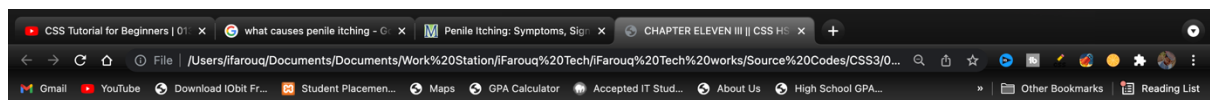
```
    <h1 style="background-color:hsl(39, 100%, 50%);">hsl(39, 100%, 50%)</h1>
```

```
    <h1 style="background-color:hsl(248, 53%, 58%);">hsl(248, 53%, 58%)</h1>
```

```
    <p>In HTML, you can specify colors using HSL values.</p>
```

```
  </body>
```

```
</html>
```



`hsl(0, 100%, 50%)`

`hsl(240, 100%, 50%)`

`hsl(147, 50%, 47%)`

`hsl(300, 76%, 72%)`

`hsl(39, 100%, 50%)`

`hsl(248, 53%, 58%)`

In HTML, you can specify colors using HSL values.

11.4.2 Saturation

Saturation can be described as the intensity of a color. 100% is pure color, no shades of gray. 50% is 50% gray, but you can still see the color. 0% is completely gray, you can no longer see the color.

Example

`hsl(0, 100%, 50%)`

`hsl(0, 80%, 50%)`

`hsl(0, 60%, 50%)`

`hsl(0, 40%, 50%)`

`hsl(0, 20%, 50%)`

`hsl(0, 0%, 50%)`

```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

```
<h1 style="background-color:hsl(0, 100%, 50%);">hsl(0, 100%, 50%)</h1>
```

```
<h1 style="background-color:hsl(0, 80%, 50%);">hsl(0, 80%, 50%)</h1>
```

```
<h1 style="background-color:hsl(0, 60%, 50%);">hsl(0, 60%, 50%)</h1>
```

```
<h1 style="background-color:hsl(0, 40%, 50%);">hsl(0, 40%, 50%)</h1>
```

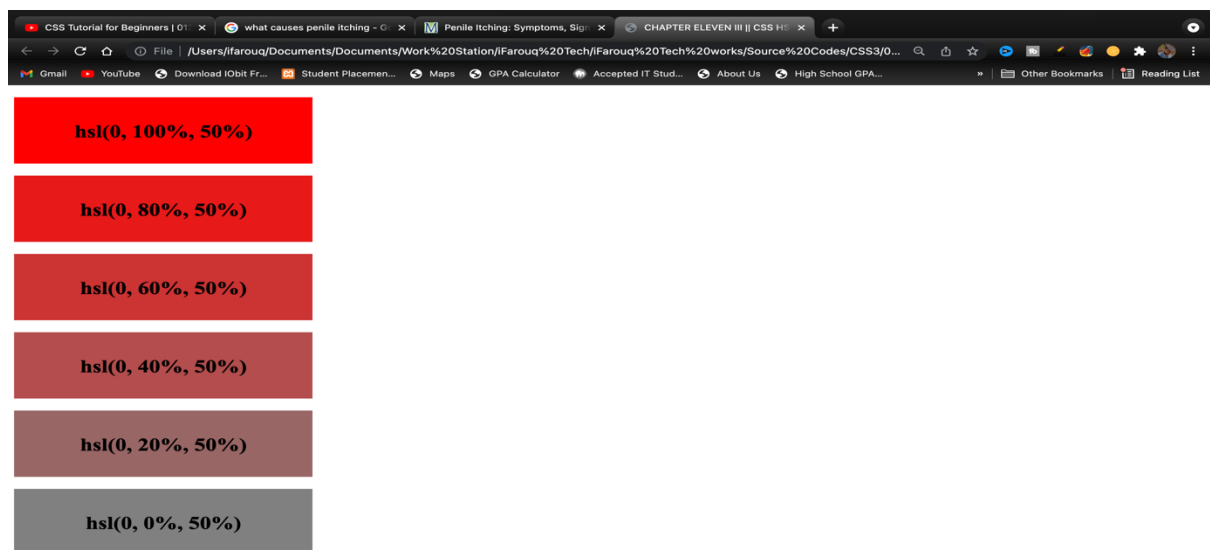
```
<h1 style="background-color:hsl(0, 20%, 50%);">hsl(0, 20%, 50%)</h1>
```

```
<h1 style="background-color:hsl(0, 0%, 50%);">hsl(0, 0%, 50%)</h1>
```

<p>With HSL colors, less saturation mean less color. 0% is completely gray.</p>

```
</body>
```

```
</html>
```



With HSL colors, less saturation mean less color. 0% is completely gray.

11.4.3 Lightness

The lightness of a color can be described as how much light you want to give the color, where 0% means no light (black), 50% means 50% light (neither dark nor light) 100% means full lightness (white).

Example

<code>hsl(0, 100%, 0%)</code>	<code>hsl(0, 100%, 25%)</code>
<code>hsl(0, 100%, 50%)</code>	<code>hsl(0, 100%, 75%)</code>
<code>hsl(0, 100%, 90%)</code>	<code>hsl(0, 100%, 100%)</code>

```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

```
<h1 style="background-color:hsl(0, 100%, 0%);">hsl(0, 100%, 0%)</h1>
```

```
<h1 style="background-color:hsl(0, 100%, 25%);">hsl(0, 100%, 25%)</h1>
```

```
<h1 style="background-color:hsl(0, 100%, 50%);">hsl(0, 100%, 50%)</h1>
```

```
<h1 style="background-color:hsl(0, 100%, 75%);">hsl(0, 100%, 75%)</h1>
```

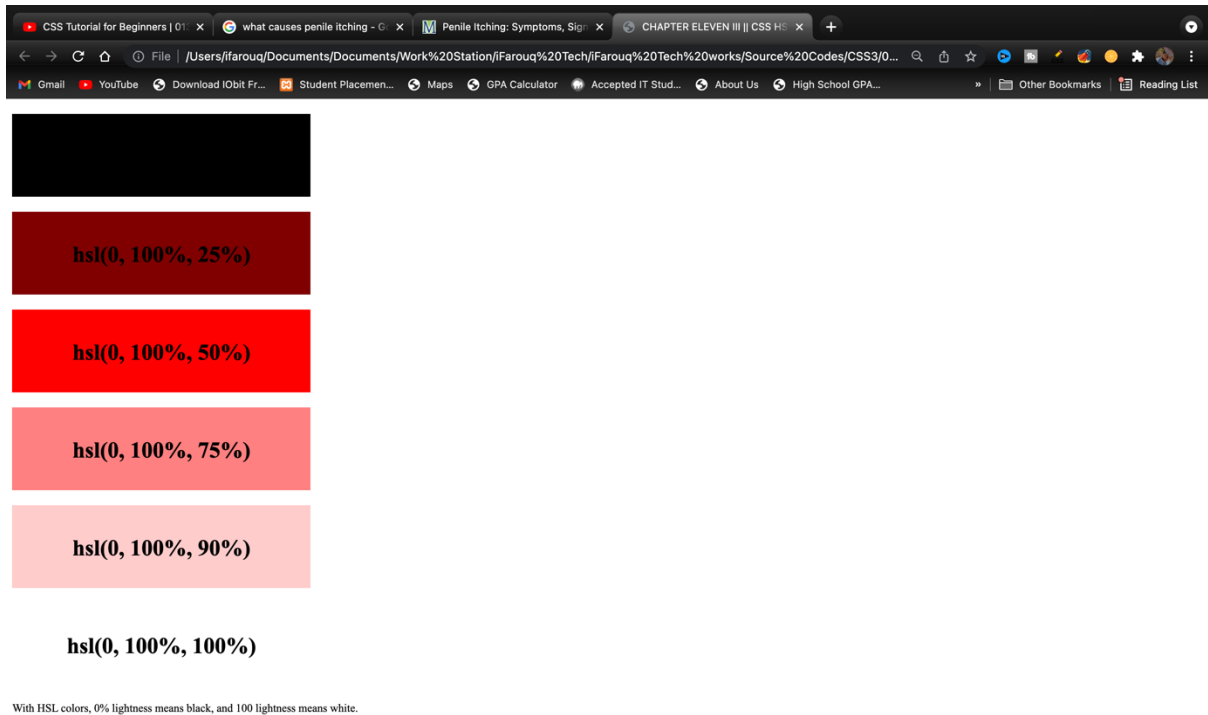
```
<h1 style="background-color:hsl(0, 100%, 90%);">hsl(0, 100%, 90%)</h1>
```

```
<h1 style="background-color:hsl(0, 100%, 100%);">hsl(0, 100%, 100%)</h1>
```

<p>With HSL colors, 0% lightness means black, and 100 lightness means white.</p>

</body>

</html>



Shades of gray are often defined by setting the hue and saturation to 0, and adjust the lightness from 0% to 100% to get darker/lighter shades:

Example



```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

```
<h1 style="background-color:hsl(0, 0%, 0%);">hsl(0, 0%, 0%)</h1>
```

```
<h1 style="background-color:hsl(0, 0%, 24%);">hsl(0, 0%, 24%)</h1>
```

```
<h1 style="background-color:hsl(0, 0%, 47%);">hsl(0, 0%, 47%)</h1>
```

```
<h1 style="background-color:hsl(0, 0%, 71%);">hsl(0, 0%, 71%)</h1>
```

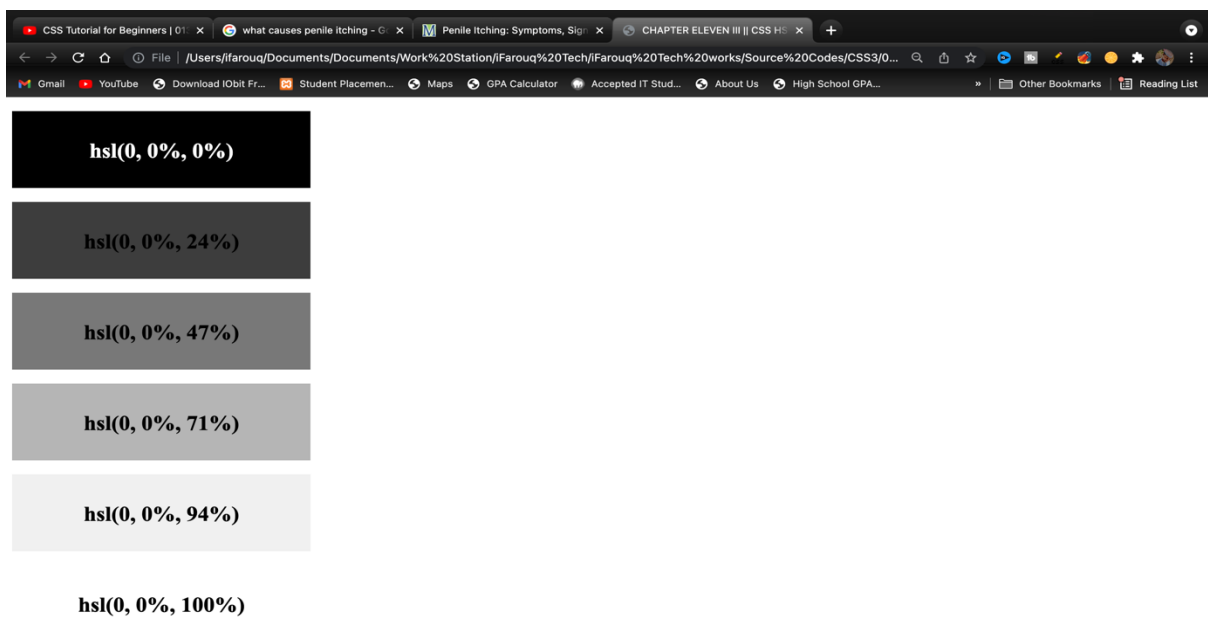
```
<h1 style="background-color:hsl(0, 0%, 94%);">hsl(0, 0%, 94%)</h1>
```

```
<h1 style="background-color:hsl(0, 0%, 100%);">hsl(0, 0%, 100%)</h1>
```

<p>With HSL colors, shades of gray are made by setting the saturation to 0%, and adjusting the lightness according to how dark/light the gray color should be.</p>

```
</body>
```

```
</html>
```



With HSL colors, shades of gray are made by setting the saturation to 0%, and adjusting the lightness according to how dark/light the gray color should be.

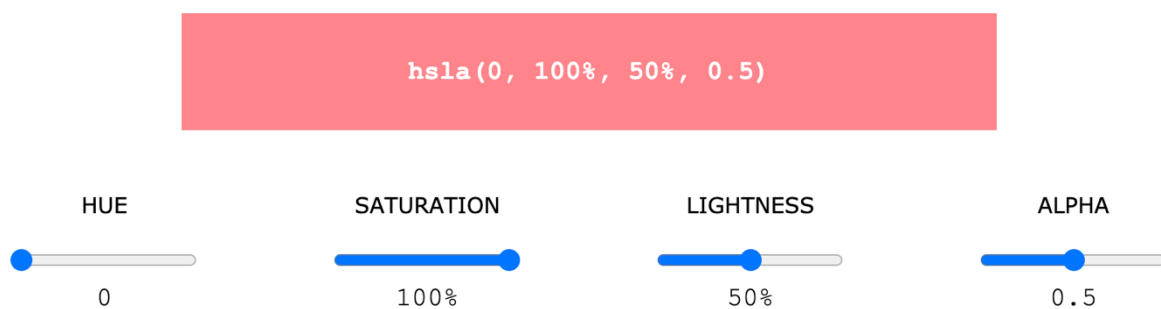
11.4.4 HSLA Value

HSLA color values are an extension of HSL color values with an alpha channel - which specifies the opacity for a color.

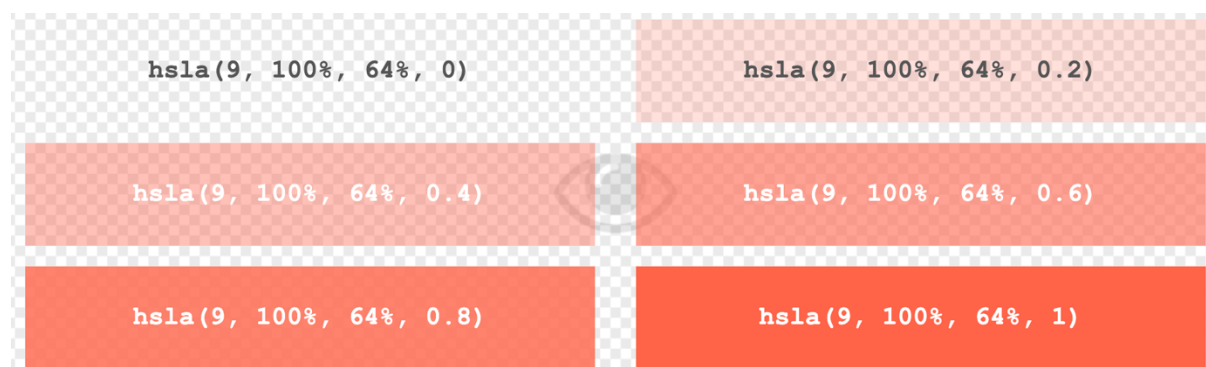
An HSLA color value is specified with: **hsla(hue, saturation, lightness, alpha)**

The alpha parameter is a number between 0.0 (fully transparent) and 1.0 (not transparent at all):

Experiment by mixing the HSLA values below:



Example



```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```



```
<h1 style="background-color:hsla(9, 100%, 64%, 0);">hsla(9, 100%, 64%, 0)</h1>
```

```
<h1 style="background-color:hsla(9, 100%, 64%, 0.2);">hsla(9, 100%, 64%, 0.2)</h1>
```

```
<h1 style="background-color:hsla(9, 100%, 64%, 0.4);">hsla(9, 100%, 64%, 0.4)</h1>
```

```
<h1 style="background-color:hsla(9, 100%, 64%, 0.6);">hsla(9, 100%, 64%, 0.6)</h1>
```

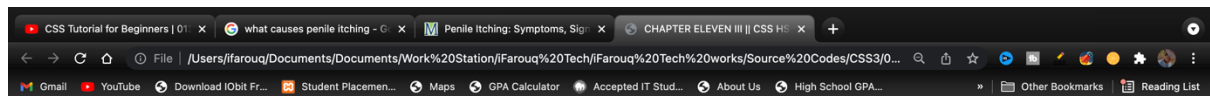
```
<h1 style="background-color:hsla(9, 100%, 64%, 0.8);">hsla(9, 100%, 64%, 0.8)</h1>
```

```
<h1 style="background-color:hsla(9, 100%, 64%, 1);">hsla(9, 100%, 64%, 1)</h1>
```

```
<p>You can make transparent colors by using the HSLA color value.</p>
```

```
</body>
```

```
</html>
```



hsla(9, 100%, 64%, 0)

hsla(9, 100%, 64%, 0.2)

hsla(9, 100%, 64%, 0.4)

hsla(9, 100%, 64%, 0.6)

hsla(9, 100%, 64%, 0.8)

hsla(9, 100%, 64%, 1)

You can make transparent colors by using the HSLA color value.