SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING-IOT Including CS&BCT

COURSE NAME : 19SB602 FULL STACK DEVELOPMENT FOR NEXT GENERATION IOT

III YEAR / VI SEMESTER

Unit I- **INTRODUCTION TO WEB TECHNOLOGIES**

Topic : CSS Colors and Backgrounds

The CSS background properties are used to add background effects for elements.

CSS background-color

The background-color property specifies the background color of an element.

Example

The background color of a page is set like this:

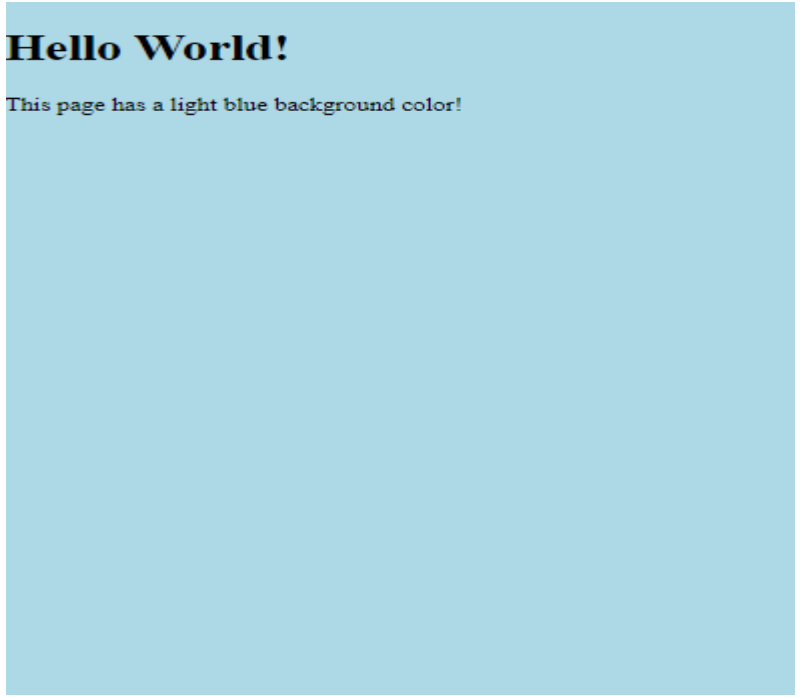
```
body {
  background-color: lightblue;
}
```

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
  background-color: lightblue;
}
</style>
</head>
<body>

<h1>Hello World!</h1>

<p>This page has a light blue background color!</p>

</body>
</html>
```



CSS Colors

Colors in CSS can be specified by the following methods:

Hexadecimal colors
Hexadecimal colors with transparency
RGB colors
RGBA colors
HSL colors
HSLA colors
Predefined/Cross-browser color names
With the current color keyword

Hexadecimal Colors

A hexadecimal color is **specified with: #RRGGBB**, where the RR (red), GG (green) and BB (blue) hexadecimal integers specify the components of the color. All values must be between 00 and FF.

For example, the #0000ff value is rendered as blue, because the blue component is set to its highest value (ff) and the others are set to 00.

Example

Define different HEX colors:

```
#p1 {background-color: #ff0000;}   /* red */
#p2 {background-color: #00ff00;}   /* green */
#p3 {background-color: #0000ff;}   /* blue */
```

```
<!DOCTYPE html>
<html>
<head>
<style>
#p1 {background-color:#ff0000;}
#p2 {background-color:#00ff00;}
#p3 {background-color:#0000ff;}
#p4 {background-color:#ffff00;}
#p5 {background-color:#ff00ff;}
</style>
</head>
<body>
<h2>HEX colors</h2>
<p>A hexadecimal color is specified with: #RRGGBB, where the RR (red), GG (green) and BB (blue) hexadecimal integers specify the components of the color. All values must be between 00 and FF.</p>
<p id="p1">Red</p>
<p id="p2">Green</p>
<p id="p3">Blue</p>
<p id="p4">Yellow</p>
<p id="p5">Cerise</p>
</body>
</html>
```

Hexadecimal Colors With Transparency

A hexadecimal color is specified with: #RRGGBB. **To add transparency, add two additional digits between 00 and FF.**

Example

Define different HEX colors with transparency:

```
#p1a {background-color: #ff000080;}   /* red transparency */
#p2a {background-color: #00ff0080;}   /* green transparency */
#p3a {background-color: #0000ff80;}   /* blue transparency */
```

```
<!DOCTYPE html>
<html>
<head>
<style>
#p1 {background-color:#ff0000;}
#p1a {background-color:#ff000080;}
#p2 {background-color:#00ff00;}
#p2a {background-color:#00ff0080;}
#p3 {background-color:#0000ff;}
#p3a {background-color:#0000ff80;}
#p4 {background-color:#ffff00;}
#p4a {background-color:#ffff0080;}
#p5 {background-color:#ff00ff;}
#p5a {background-color:#ff00ff80;}
</style>
</head>
<body>
```

```
<h2>HEX colors with transparency</h2>
<p>A hexadecimal color is specified with: #RRGGBB. To add transparency, add two additional digits between 00 and FF.</p>

<p id="p1">Red</p>
<p id="p1a">Red transparency</p>
<p id="p2">Green</p>
<p id="p2a">Green transparency</p>
<p id="p3">Blue</p>
<p id="p3a">Blue transparency</p>
<p id="p4">Yellow</p>
<p id="p4a">Yellow transparency</p>
<p id="p5">Cerise</p>
<p id="p5a">Cerise transparency</p>

</body>
</html>
```

HEX colors with transparency

A hexadecimal color is specified with: #RRGGBB. To add transparency, add two additional digits between 00 and FF.

Red

Red transparency

Green

Green transparency

Blue

Blue transparency

Yellow

Yellow transparency

Cerise

Cerise transparency

RGB Colors

An RGB color value is specified with the rgb() function, which has the following syntax:

rgb(red, green, blue)

Each parameter (red, green, and blue) defines the intensity of the color and can be an integer between 0 and 255 or a percentage value (from 0% to 100%).

For example, the rgb(0,0,255) value is rendered as blue, because the blue parameter is set to its highest value (255) and the others are set to 0.

Also, the following values define equal color: rgb(0,0,255) and rgb(0%,0%,100%).

Example

Define different RGB colors:

```
#p1 {background-color: rgb(255, 0, 0);}   /* red */
#p2 {background-color: rgb(0, 255, 0);}   /* green */
#p3 {background-color: rgb(0, 0, 255);}   /* blue */
```

```
<!DOCTYPE html>
<html>
<head>
<style>
#p1 {background-color:rgb(255,0,0);}
#p2 {background-color:rgb(0,255,0);}
#p3 {background-color:rgb(0,0,255);}
#p4 {background-color:rgb(192,192,192);}
#p5 {background-color:rgb(255,255,0);}
#p6 {background-color:rgb(255,0,255);}
</style>
</head>
<body>
```

```
<h2>RGB colors</h2>
<p>An RGB color value is specified with the rgb() function: rgb(red, green, blue)</p>
<p>Each parameter (red, green, and blue) defines the intensity of the color and can be an integer between 0 and 255 or a percentage value (from 0% to 100%).</p>

<p id="p1">Red</p>
<p id="p2">Green</p>
<p id="p3">Blue</p>
<p id="p4">Grey</p>
<p id="p5">Yellow</p>
<p id="p6">Cerise</p>

</body>
</html>
```

RGB colors

An RGB color value is specified with the rgb() function: rgb(red, green, blue)

Each parameter (red, green, and blue) defines the intensity of the color and can be an integer between 0 and 255 or a percentage value (from 0% to 100%).

Red

Green

Blue

Grey

Yellow

Cerise

RGBA Colors

RGBA color values are an extension of RGB color values with an alpha channel - which specifies the opacity of the object.

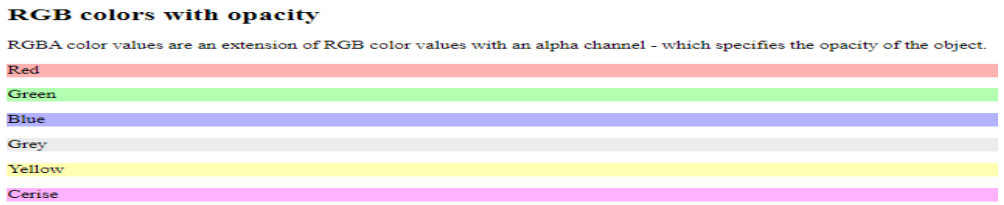
An RGBA color is specified with the rgba() function, which has the following syntax:

rgba(red, green, blue, alpha)

The alpha parameter is a number between 0.0 (fully transparent) and 1.0 (fully opaque).

Example

Define different RGB colors with opacity:




```
#p1 {background-color: rgba(255, 0, 0, 0.3);}   /* red with opacity */
#p2 {background-color: rgba(0, 255, 0, 0.3);}   /* green with opacity */
#p3 {background-color: rgba(0, 0, 255, 0.3);}   /* blue with opacity */
```

HSL Colors

HSL stands for hue, saturation, and lightness - and represents a cylindrical-coordinate representation of colors.

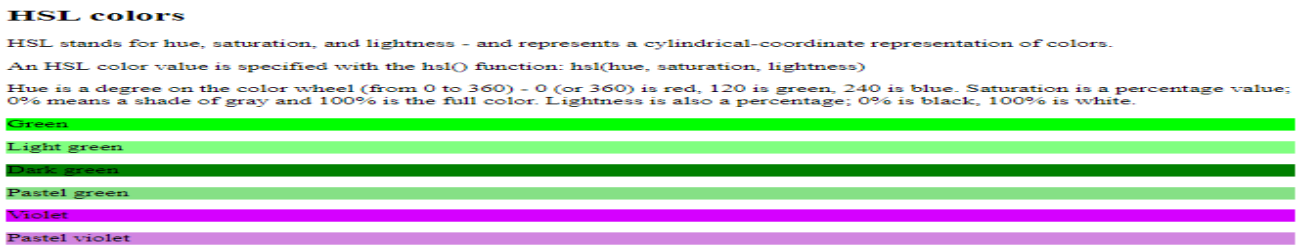
An HSL color value is specified with the hsl() function, which has the following syntax:

hsl(hue, saturation, lightness)

Hue is a degree on the color wheel (from 0 to 360) - 0 (or 360) is red, 120 is green, 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, 100% is white.

Example

Define different HSL colors:




```
#p1 {background-color: hsl(120, 100%, 50%);}   /* green */
#p2 {background-color: hsl(120, 100%, 75%);}   /* light green */
#p3 {background-color: hsl(120, 100%, 25%);}   /* dark green */
#p4 {background-color: hsl(120, 60%, 70%);}    /* pastel green */
```

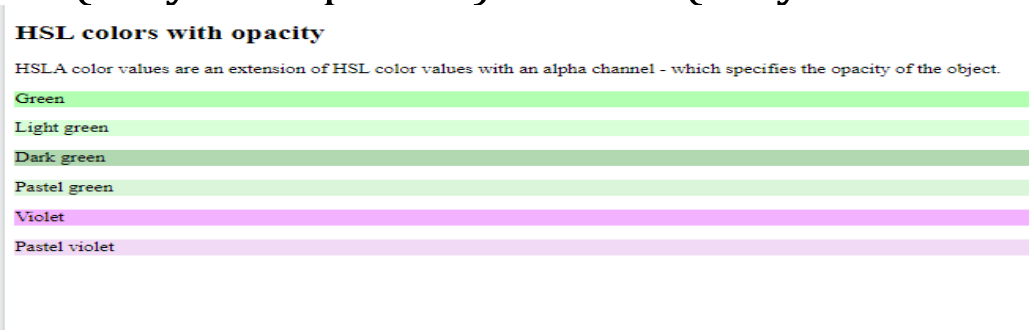
HSLA Colors

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

An HSLA color value is specified with the hsla() function, which has the following syntax:

hsla(hue, saturation, lightness, alpha)

The alpha parameter is a number between 0.0 (fully transparent) and 1.0 (fully opaque).



Example

Define different HSL colors with opacity:

```
#p1 {background-color: hsla(120, 100%, 50%, 0.3);}   /* green with opacity */
#p2 {background-color: hsla(120, 100%, 75%, 0.3);}   /* light green with opacity */
#p3 {background-color: hsla(120, 100%, 25%, 0.3);}   /* dark green with opacity */
#p4 {background-color: hsla(120, 60%, 70%, 0.3);}    /* pastel green with opacity */
```

Predefined/Cross-browser Color Names

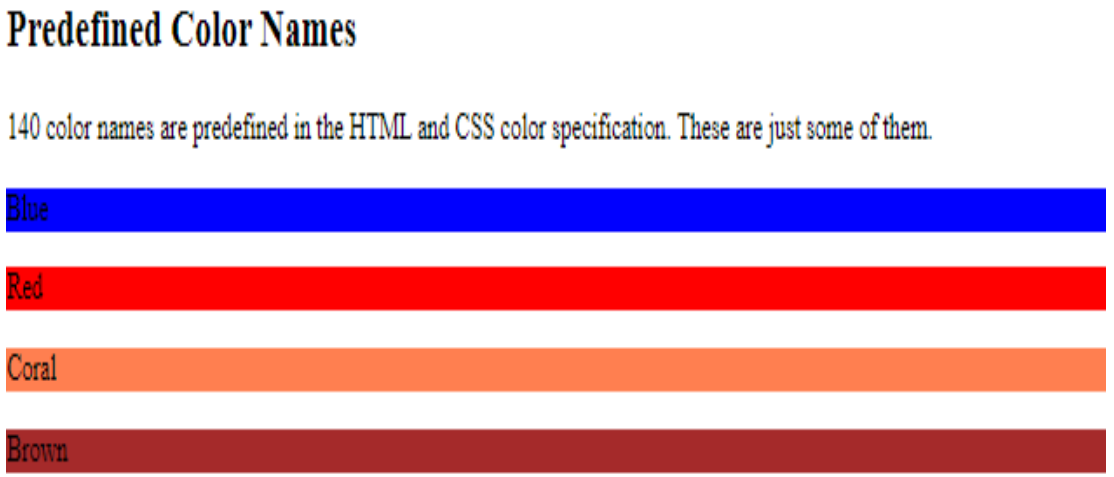
140 color names are predefined in the HTML and CSS color specification.

For example: blue, red, coral, brown, etc:

Example

Define different color names:

```
#p1 {background-color: blue;}
#p2 {background-color: red;}
#p3 {background-color: coral;}
#p4 {background-color: brown;}
```



Any Query????

Thank you……