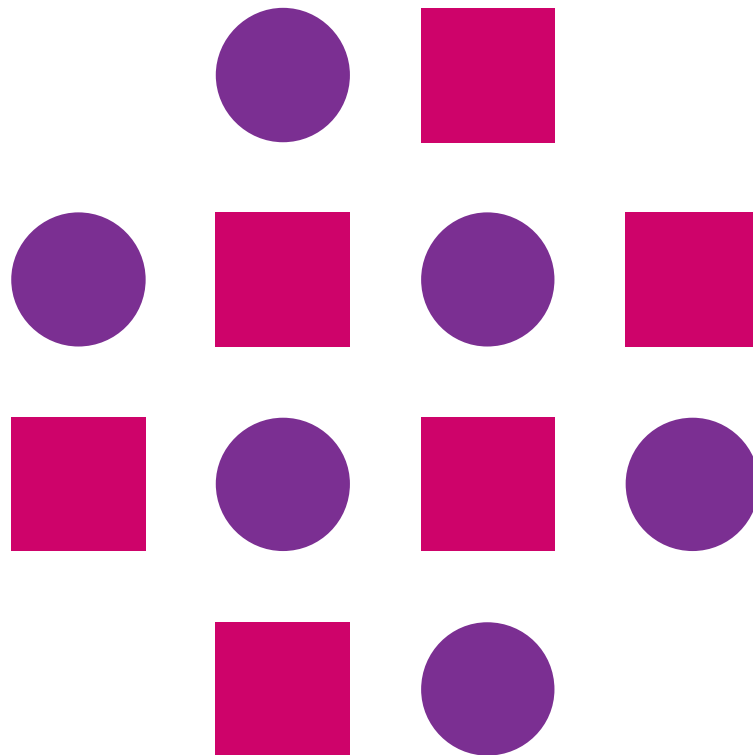


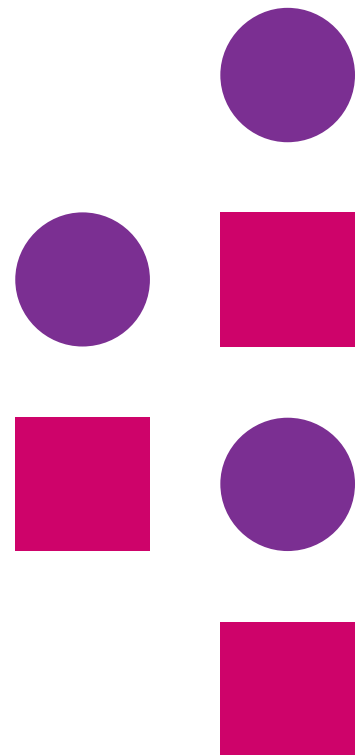
# Colors

## Cascading Style Sheets (CSS3)



# Table of Content

- Colours



# Colors

(Cascading Style Sheets 3)

# Colors

- Colors are specified using predefined
  - Color names
  - Hexadecimal value
  - RGB value
  - RGBA value
  - HSL value
  - HSLA value

# Colors

## (Color names)

- CSS supports 140 standard color names
- Names are defined as red, green, blue, black, yellow, cyan, magenta, white etc

```
<h2 style="color:green;">Green Tree</h2>
```

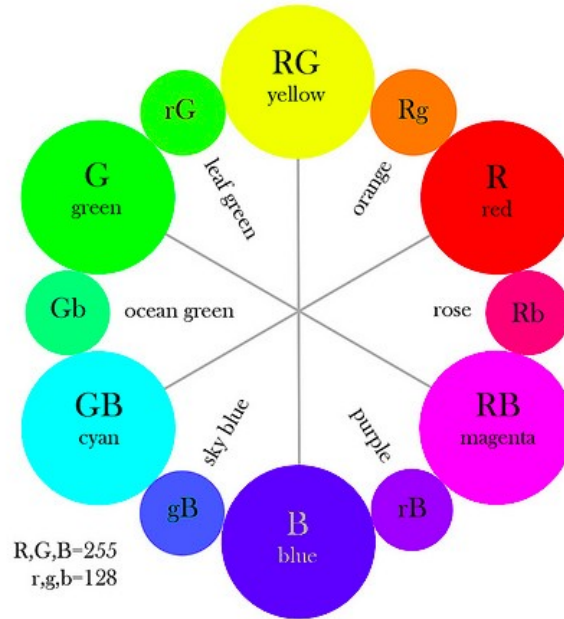
```
<p style="color:red;">This paragraph is colored red</p>
```

```
<p>I like <span style="color:magenta;">magenta</span> roses.</p>
```

# Colors

## (RGB model)

Color wheel according to the sRGB standard



Mixing opposite colors produces neutral gray

# Colors

## (Hexadecimal codes)

- Hex codes are defined as #rrggbb or #RRGGBB
- Where rr (red), gg (green) and bb (blue) are hexadecimal values between 00 and ff
- Example :
  - #ff0000 is red
  - #FFFF00 is yellow

# Colors

## (RGB codes)

- RGB codes are defined as RGB (red, green, blue)
- Each parameter (red, green, and blue) defines the intensity of the color between 0 and 255
- Example :
  - RGB (255, 0, 0) is red
  - RGB (255, 255, 0) is yellow



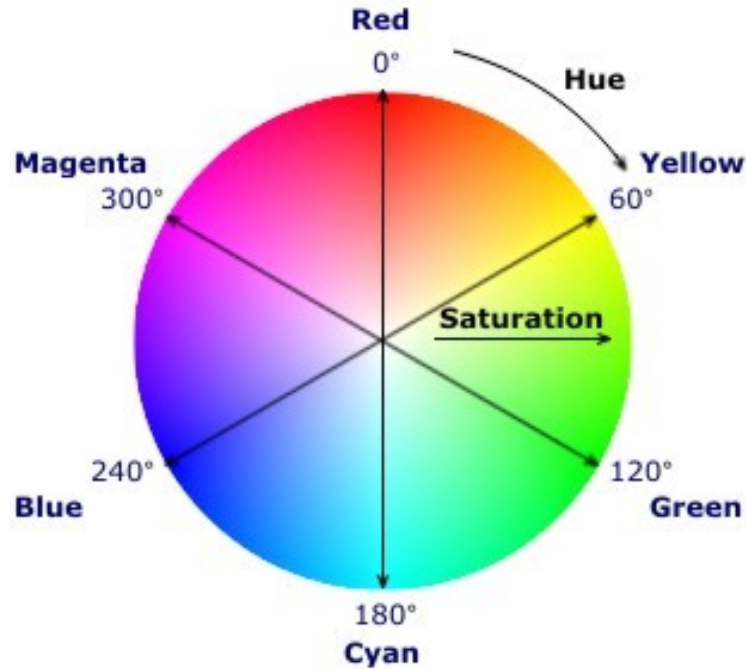
# Colors

## (HSL codes)

- HSL values are defines as `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 grey, and 100% is the full color
- Lightness is also a percentage, 0% is black, 50% is neither light nor dark, 100% is white

# Colors

(HSL model)



# Colors

## (HSL codes - Saturation)

- Saturation can be described as the intensity of a color
  - 100% is pure color, no shades of grey
  - 50% is 50% grey, but you can still see the color
  - 0% is completely grey, you can no longer see the color
- Shades of grey are often defined by setting the hue and saturation to 0, and adjust the lightness from 0% to 100% to get darker/lighter shades

# Colors

## (HSL codes - 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)

# Color Table

Name	Hex code	RGB code	HSL code
red	#FF0000	(255, 0, 0)	(0, 100%, 50%)
green	#008000	(0, 128, 0)	(120, 100%, 25%)
blue	#0000FF	(0, 0, 255)	(240, 100%, 50%)
yellow	#FFFF00	(255, 255, 0)	(60, 100%, 50%)
cyan	#00FFFF	(0, 255, 255)	(180, 100%, 50%)
magenta	#FF00FF	(255, 0, 255)	(300, 100%, 50%)
black	#000000	(0, 0, 0)	(0, 0%, 0%)
white	#FFFFFF	(255, 255, 255)	(0, 0%, 100%)

\*Table given above is not exhaustive list of colors

\*\*[https://www.w3schools.com/colors/colors\\_names.asp](https://www.w3schools.com/colors/colors_names.asp)

# Color Table

<b>red</b> <b>rgb(255,0,0)</b> <b>#FF0000</b>	<b>green</b> <b>rgb(0,255,0)</b> <b>#00FF00</b>	<b>blue</b> <b>rgb(0,0,255)</b> <b>#0000FF</b>	<b>black</b> <b>rgb(0,0,0)</b> <b>#000000</b>
<b>lime</b> <b>rgb(0,255,0)</b> <b>#00FF00</b>	<b>yellow</b> <b>rgb(255,255,0)</b> <b>#FFFF00</b>	<b>cyan</b> <b>rgb(0,255,255)</b> <b>#00FFFF</b>	<b>grey</b> <b>rgb(128,128,128)</b> <b>#808080</b>
<b>silver</b> <b>rgb(192,192,192)</b> <b>#C0C0C0</b>	<b>white</b> <b>rgb(255,255,255)</b> <b>#FFFFFF</b>	<b>olive</b> <b>rgb(128,128,0)</b> <b>#808000</b>	<b>maroon</b> <b>rgb(128,0,0)</b> <b>#800000</b>
<b>teal</b> <b>rgb(0,128,128)</b> <b>#008080</b>	<b>navy</b> <b>rgb(0,0,128)</b> <b>#000080</b>	<b>purple</b> <b>rgb(128,0,128)</b> <b>#800080</b>	<b>fuchsia</b> <b>rgb(255,0,255)</b> <b>#FF00FF</b>

# Colors

## (Example - Hex)

```
<h2 style="color:#FF0000;">Red carpet</h2>
```

```
<h2 style="color:#FFFF00;">Yellow Flower</h2>
```

# Colors

## (Example - RGB)

```
<h2 style="color:rgb(255, 0, 0);">Red carpet</h2>  
<h2 style="color:rgb(255, 255, 0);">Yellow Flower</h2>
```



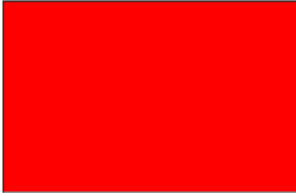
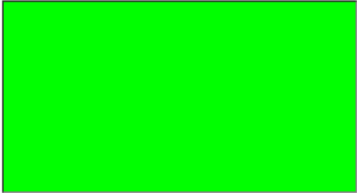



# Colors

## (Example - HSL)

```
<h2 style="color:hsl(0, 100%, 50%);">Red Carpet</h2>
```

```
<h2 style="color:hsl(120, 100%, 25%);">Green Mango</h2>
```

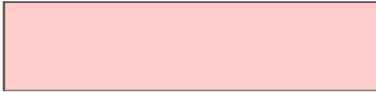
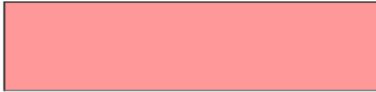


```
<h2 style="color:hsl(240, 100%, 50%);">Blue Flower</h2>
```

hsl(0,100%,50%)	hsl(120, 100%, 50%)	hsl(120, 100%, 25%)	hsl(120, 100%, 75%)	hsl(120, 60%, 70%)
				

# Colors

## (RGBA)





- Color value - `rgba(red, green, blue, alpha)`
- Alpha specifies the opacity for a color
- The alpha parameter is a number between 0.0(fully transparent) and 1.0 (fully opaque)

<code>rgba(255, 0, 0, 0.2)</code>	<code>rgba(255, 0, 0, 0.4)</code>	<code>rgba(255, 0, 0, 0.6)</code>	<code>rgba(255, 0, 0, 0.8)</code>
			

# Colors

## (HSLA)

- An HSLA color value is specified with : hsla (hue, saturation, lightness, alpha), where the alpha parameter defines the opacity

<b>hsla(0,100%,30%,0.3)</b>	<b>hsla(0, 100%, 50%,0.3)</b>	<b>hsla(0, 100%, 70%,0.4)</b>	<b>hsla(0, 100%, 90%,0.6)</b>
			

# Colors

## (Opacity)

- Opacity property specifies how transparent an element is
- The Opacity property value must be a number between 0.0 (fully transparent) and 1.0 (fully opaque)

# Colors (Opacity)



**Opacity 1.0**



**Opacity 0.8**



**Opacity 0.7**



**Opacity 0.5**



**Opacity 0.4**



**Opacity 0.1**

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*Thank  
you*

# CSS4 colors

- HWB and CMYK are suggested standards of CSS4
- These standards are not supported by HTML
- HWB (Hue, Whiteness%, Blackness%)
- CMYK (cyan%, magenta%, yellow%, black%)