

Colors in CSS

Colors play a major role in the visual appearance of a website. In CSS, you can apply colors to text, backgrounds, borders, and other elements using different formats.

Ways to Define Colors

CSS supports several formats for defining colors:

1. Named Colors

CSS has a set of predefined color names like `red`, `blue`, `green`, `black`, etc.

```
h1 {  
  color: red;  
}
```

2. HEX Codes

A hexadecimal value represents a color using a six-digit code.

```
body {  
  background-color: #f0f0f0;  
}
```

- `#000000` → black
- `#ffffff` → white

- `#ff0000` → red

You can also use shorthand if all pairs are the same:

```
#fff /* same as #ffffff */
```

3. RGB (Red, Green, Blue)

You can define a color using the RGB color model.

```
p {  
  color: rgb(255, 0, 0);  
}
```

- Values range from `0` to `255`
 - `rgb(0, 0, 0)` → black
 - `rgb(255, 255, 255)` → white
-

4. RGBA (RGB + Alpha)

Adds **opacity** to RGB using the alpha channel (0 = fully transparent, 1 = fully opaque).

```
div {  
  background-color: rgba(0, 0, 0, 0.5);  
}
```

This creates a semi-transparent black background.

5. HSL (Hue, Saturation, Lightness)

Another way to define colors using:

- **Hue** (color angle on the color wheel)
- **Saturation** (intensity of the color)
- **Lightness** (brightness)

```
h2 {  
  color: hsl(240, 100%, 50%);  
}
```

6. HSLA (HSL + Alpha)

Same as HSL, but with transparency.

```
section {  
  background-color: hsla(120, 60%, 70%, 0.3);  
}
```

Applying Colors in CSS

You can use color properties in many different places:

```
h1 {  
  color: navy; /* Text color */  
  background-color: #e0e0e0; /* Background color */  
  border: 2px solid #333; /* Border color */  
}
```

Transparent and CurrentColor

- `transparent` → Makes an element's color fully transparent.
- `currentColor` → Inherits the current value of the `color` property.

```
button {  
  color: blue;  
  border: 2px solid currentColor;  
}
```

Summary

- Use color to enhance readability, structure, and aesthetics.
- Choose the format (HEX, RGB, HSL) that suits your workflow.
- Learn to use `rgba` or `hsla` for transparency effects.