# WHAT IS CSS?

- **CSS** stands for **C**ascading **S**tyle **S**heets
- CSS describes **how HTML elements are to be displayed on screen, paper, or in other media**
- External stylesheets are stored in **CSS files**

# WHY USE CSS?

- CSS is used to define styles for your web pages, including the design, layout and variations in display for different devices and screen sizes.

# WHY USE CSS?

- CSS Solved a Big Problem
  - HTML was NEVER intended to contain tags for formatting a web page!
  - HTML was created to **describe the content** of a web page, like:

```
<h1>This is a heading</h1>
<p>This is a paragraph.</p>
```

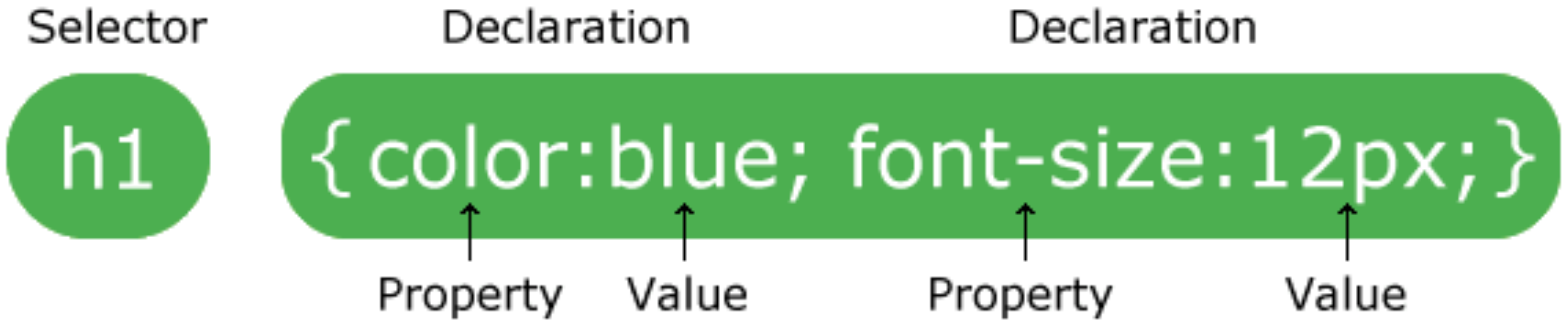
  - When tags like **<font>**, and **color attributes** were added to the **HTML 3.2** specification, it started a **nightmare** for **web developers**. Development of large websites, where fonts and color information were added to every single page, became a long and expensive process.
  - To solve this problem, the **World Wide Web Consortium** (W3C) created CSS.
  - CSS removed the style formatting from the HTML page!

# WHY USE CSS?

- CSS Saves a Lot of Work!
  - The style definitions are normally saved in external **.css** files.
  - With an external stylesheet file, you can change the look of an entire website by changing just one file!

# CSS SYNTAX

- The **selector** points to the HTML element you want to style.
- The **declaration** block contains one or more declarations separated by semicolons.
- Each declaration includes a CSS property **name and a value**, separated by a colon.
- A CSS declaration always ends with a semicolon, and declaration blocks are surrounded by curly braces.



# CSS SYNTAX

- Example

```
<!DOCTYPE html>
<html>
<head>
</head>
<body>

<p>Hello World!</p>
<p>These paragraphs are styled with CSS.</p>

</body>
</html>
```

Hello World!

These paragraphs are styled with CSS.

```
p {
    color: red;
    text-align: center;
}
```

Hello World!

These paragraphs are styled with CSS.

# CSS SELECTORS

- CSS selectors are used to **"find"** (or select) **HTML elements** based on their element **name**, **id**, **class**, **attribute**, and more.

# CSS SELECTORS

- The element Selector
  - The element selector selects elements based on the element name

```
p {
    color: red;
    text-align: center;
}
```

# CSS SELECTORS

- The **id** Selector
  - The id selector uses **the id attribute** of an HTML element to select a specific element.
  - The id of an element should be **unique** within a page, so the id selector is used to select one unique element!
  - To select an element with a specific id, write **a hash** (#) character, followed by the id of the element.
  - **Note:** An id name **cannot start** with **a number**!

# CSS SELECTORS

- Example

```
<!DOCTYPE html>
<html>
<head>
</head>
<body>

<p id="para1">Hello World!</p>
<p>This paragraph is not affected by the style.</p>

</body>
</html>
```

Hello World!

This paragraph is not affected by the style.

```
#para1 {
    text-align: center;
    color: red;
}
```

Hello World!

This paragraph is not affected by the style.

# CSS SELECTORS

- The **class** Selector
  - The class selector selects elements with a specific **class attribute**.
  - To select elements with a specific class, write **a period** (.) character, followed by the name of the class.
  - **Note:** A class name **cannot start** with **a number**!

# CSS SELECTORS

- Example

```
<!DOCTYPE html>
<html>
<head>
</head>
<body>

<h1 class="center">Red and center-aligned heading</h1>
<p class="center">Red and center-aligned paragraph.</p>

</body>
</html>
```

**Red and center-aligned heading**

Red and center-aligned paragraph.

```
.center {
    text-align: center;
    color: red;
}
```

**Red and center-aligned heading**

Red and center-aligned paragraph.

# CSS SELECTORS

- The **class** Selector
  - You can also specify that **only specific HTML elements** should be affected by **a class**.

```
p.center {
    text-align: center;
    color: red;
}
```

**This heading will not be affected**

This paragraph will be red and center-aligned.

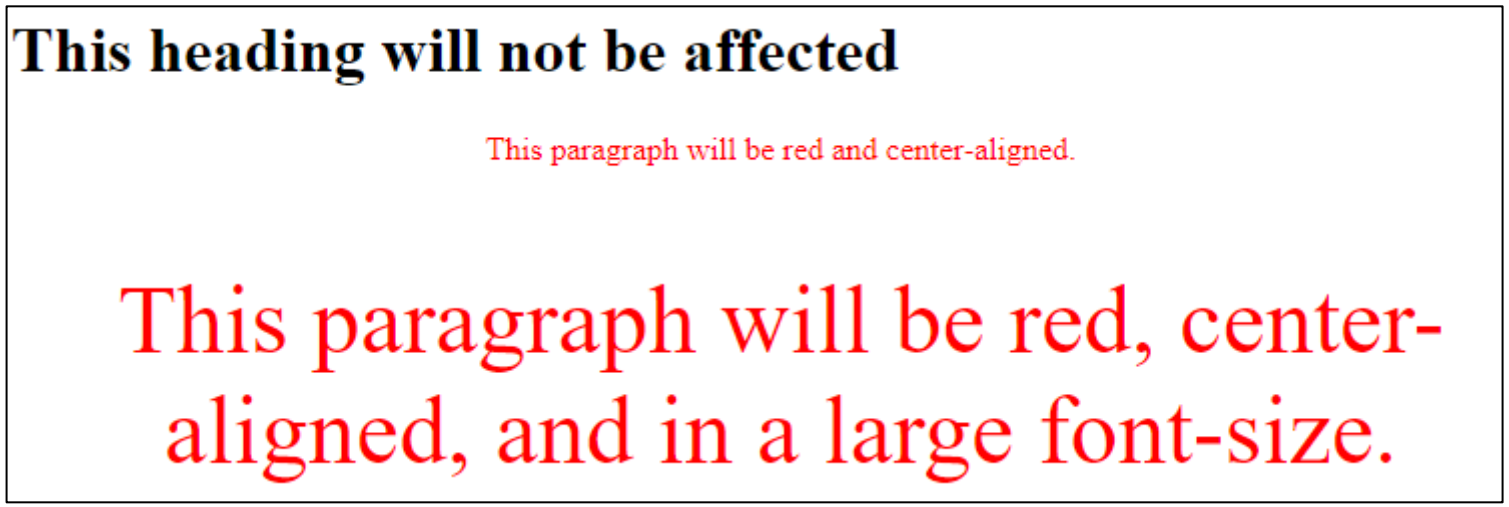
# CSS SELECTORS

- The **class** Selector
  - HTML elements can also refer to **more than one class**.

```
<h1 class="center">This heading will not be affected</h1>
<p class="center">This paragraph will be red and center-aligned.</p>
<p class="center large">This paragraph will be red, center-aligned, and in a large font-size.
```

```
p.center {
    text-align: center;
    color: red;
}
```

```
p.large {
    font-size: 300%;
}
```



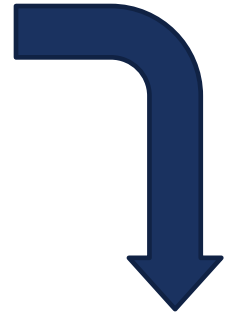
# CSS SELECTORS

- **Grouping Selectors**
  - To group selectors, separate each selector with a comma.

```css
h1 {
    text-align: center;
    color: red;
}

h2 {
    text-align: center;
    color: red;
}

p {
    text-align: center;
    color: red;
}
```



```css
h1, h2, p {
    text-align: center;
    color: red;
}
```

# CSS COMMENTS

- Comments are used to explain the code, and may help when you edit the source code at a later date.
- Comments are ignored by browsers.
- A CSS comment starts with **/* and ends with */**. Comments can also span multiple lines

```
p {
    color: red;
    /* This is a single-line comment */
    text-align: center;
}

/* This is
a multi-line
comment */
```

# THREE WAYS TO INSERT CSS

- **External style sheet**
  - With an external style sheet, **you can change the look of an entire website by changing just one file**!
  - Each page must include a reference to the external style sheet file inside the **<link>** element. The <link> element goes inside the **<head>** section

```
<head>
<link rel="stylesheet" type="text/css" href="mystyle.css">
</head>
```

# THREE WAYS TO INSERT CSS

- **Internal style sheet**
  - An internal style sheet may be used if **one single page has a unique style**.
  - Internal styles are defined within the **<style>** element, inside the **<head>** section of an HTML page

```
<head>
<style>
body {
    background-color: linen;
}

h1 {
    color: maroon;
    margin-left: 40px;
}
</style>
</head>
```

# THREE WAYS TO INSERT CSS

- **Inline style**
  - An inline style may be used to apply **a unique style for a single element**.
  - To use inline styles, **add the style attribute to the relevant element**. The style attribute can contain any CSS property

```
<h1 style="color:blue;margin-left:30px;">This is a heading</h1>
```

# CSS COLORS

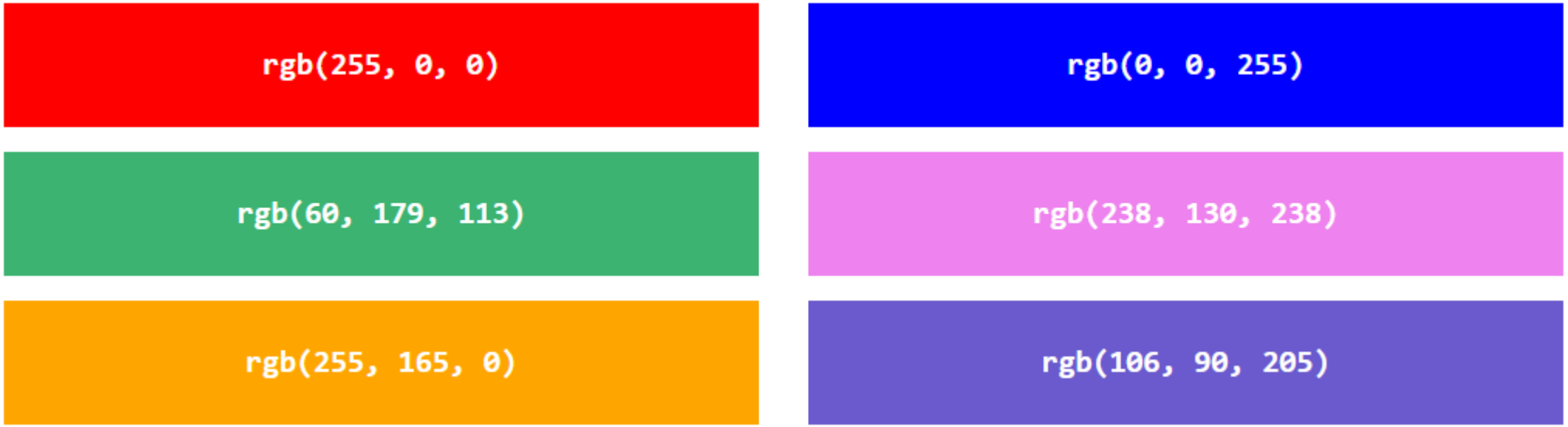
- Colors are specified using predefined color **names**, or **RGB**, **HEX**, **HSL**, **RGBA**, **HSLA** values.

# CSS COLORS

- HTML supports 140 standard color names (https://www.w3schools.com/colors/colors_names.asp)

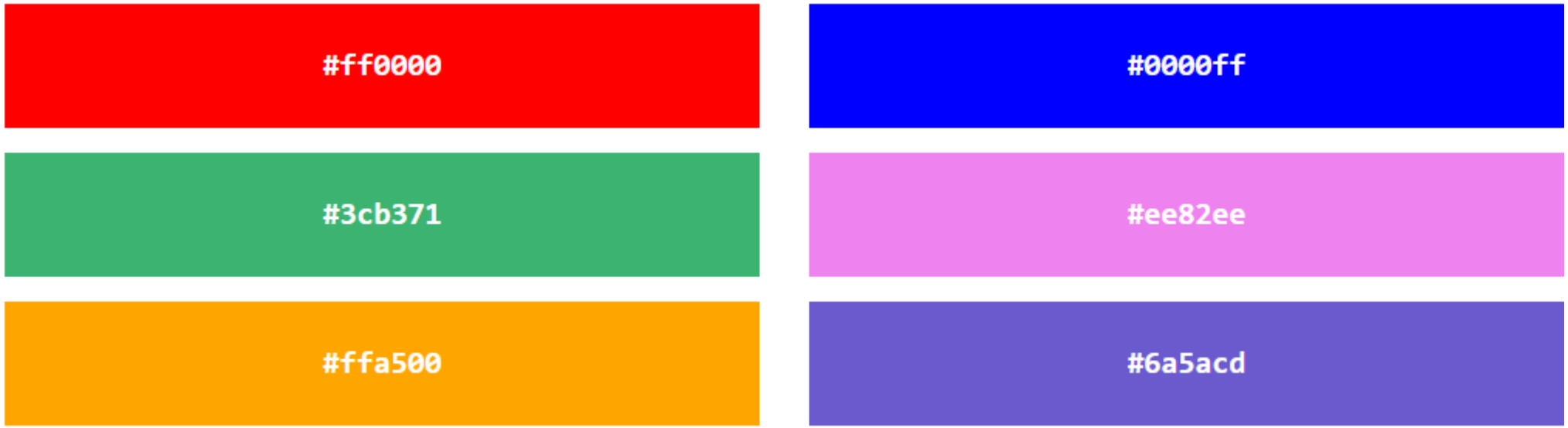
# CSS COLORS

- RGB Value: **rgb(*red, green*, *blue*)**



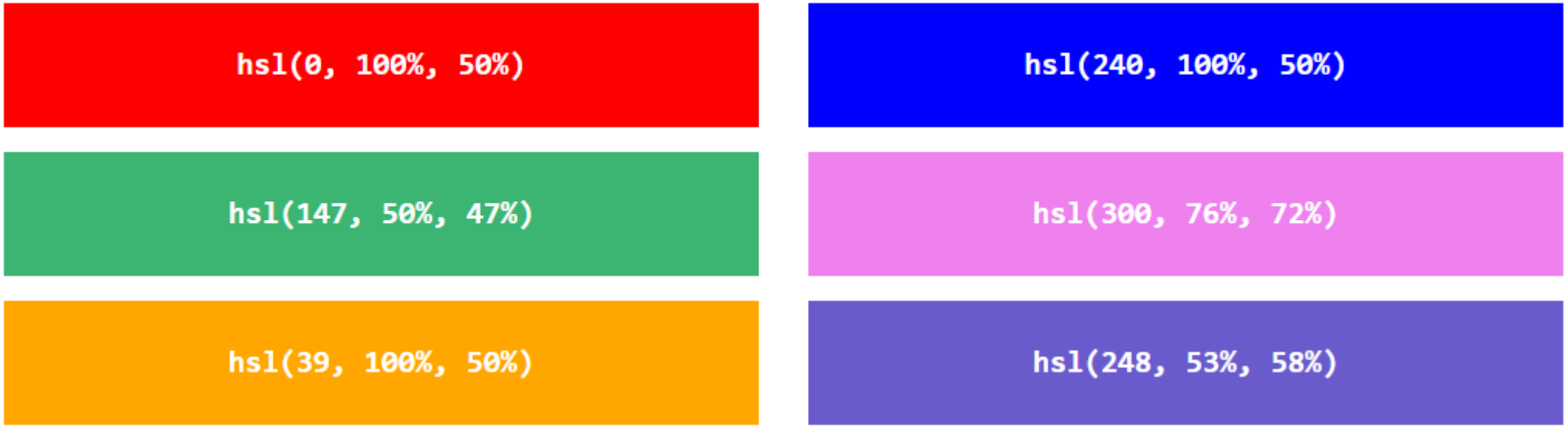
# CSS COLORS

- HEX Value: ***#rrggbb***



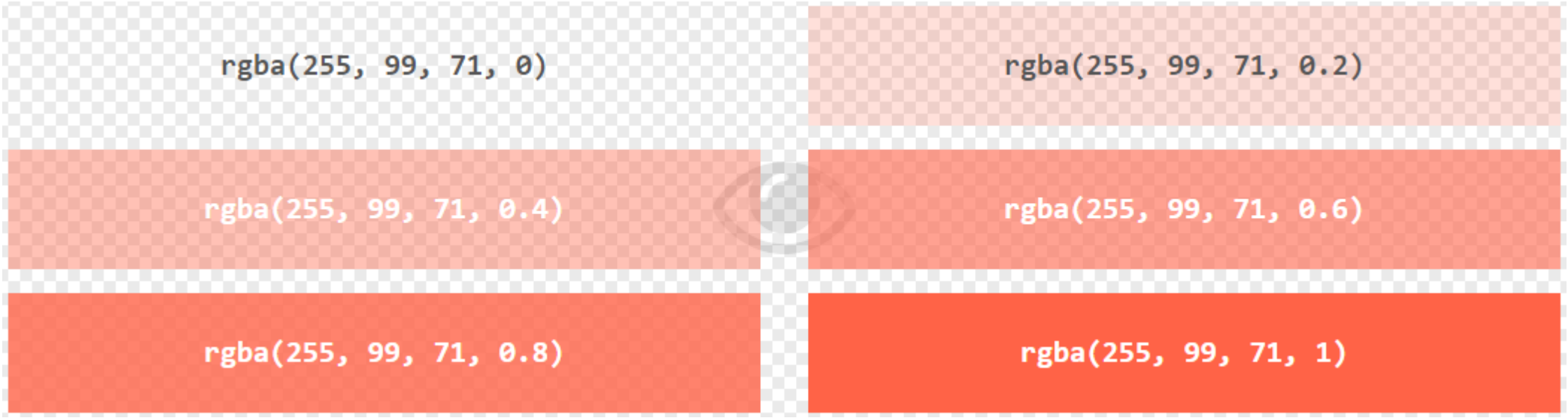
# CSS COLORS

- HSL Value: **hsl(*hue*, *saturation*, *lightness*)**



# CSS COLORS

- RGBA Value: **rgba(*red, green*, *blue, alpha*)**



# CSS COLORS

- HSLA Value: **hsla(*hue, saturation*, *lightness, alpha*)**

# CSS COLORS

```
<h1 style="background-color:DodgerBlue;">Hello World</h1>
```

Hello World

- Background Color: **background-color**
- Text Color: **color**
- Border Color: **border**

```
<h1 style="color:Tomato;">Hello World</h1>
```

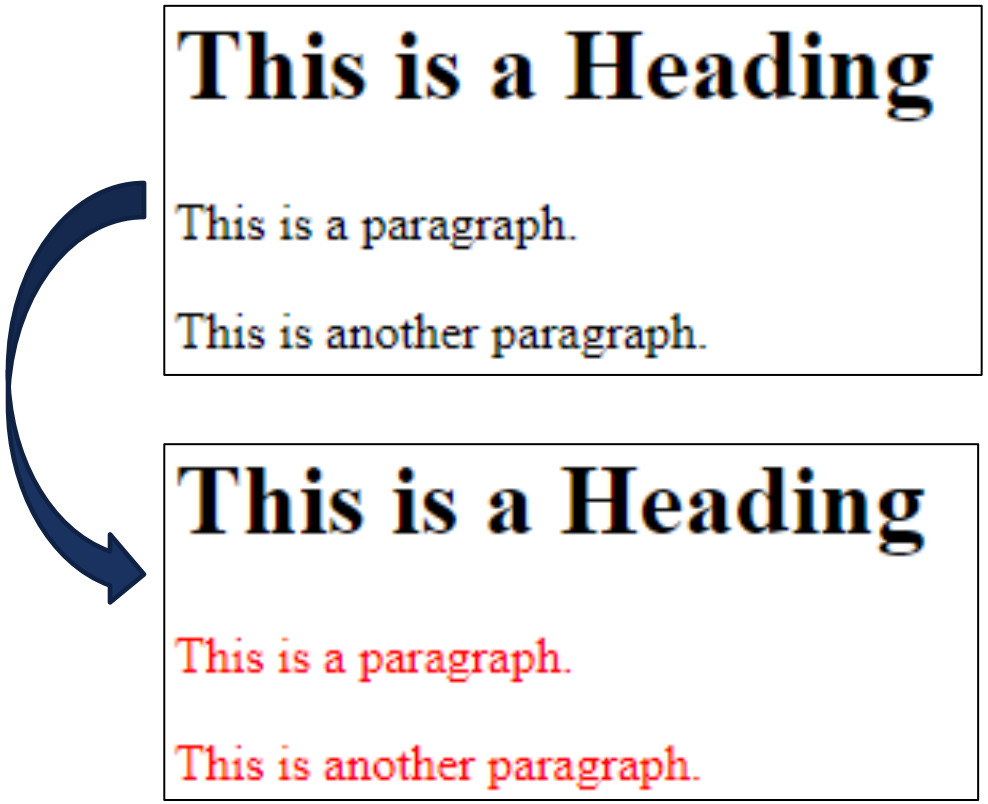
Hello World

```
<h1 style="border:2px solid Tomato;">Hello World</h1>
```

Hello World

# EXERCISES 1

- Change the color of all <p> elements to "red".

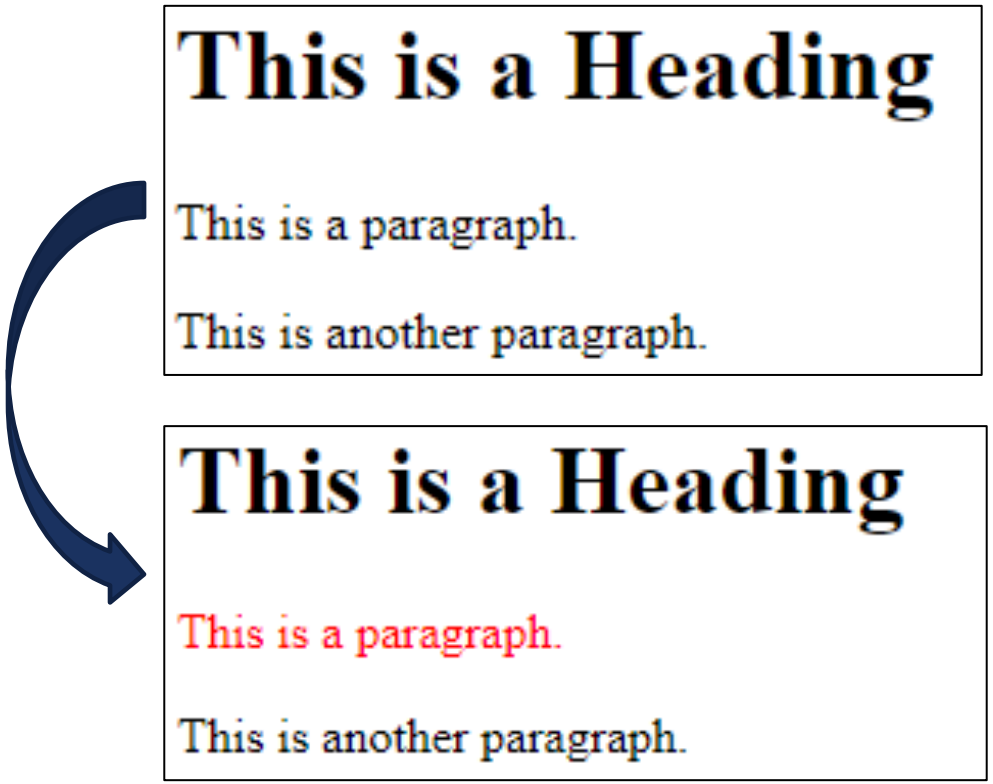



```
<h1>This is a Heading</h1>
<p>This is a paragraph.</p>
<p>This is another paragraph.</p>
```

```
p {
    color: red;
}
```

# EXERCISES 2

- Change the color of the element with id="para1", to "red".

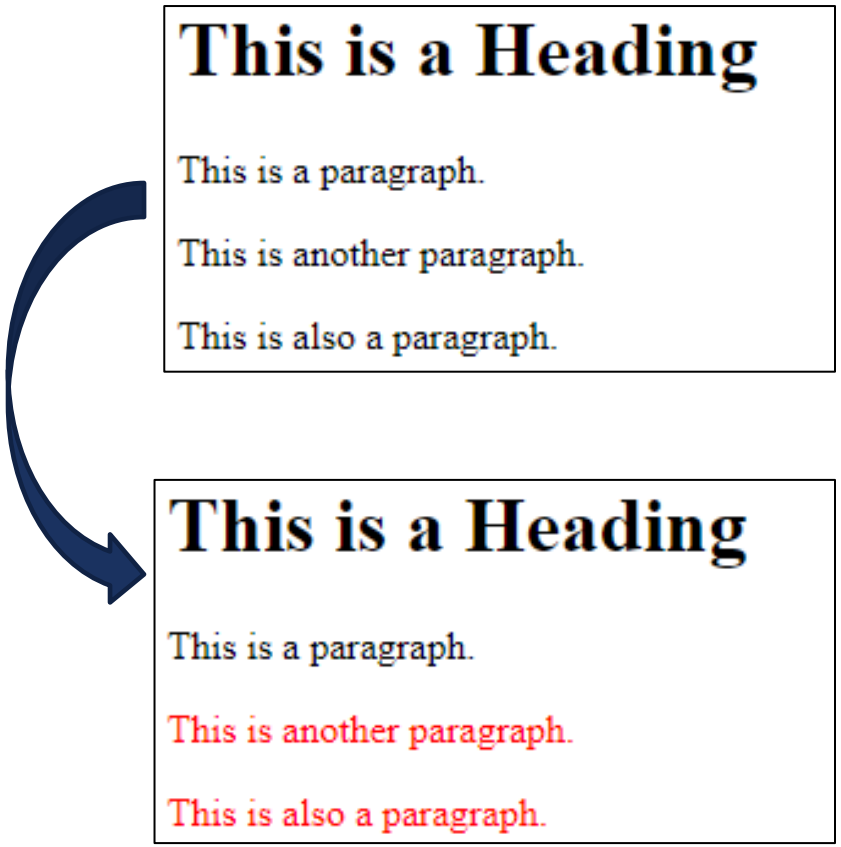



```
<h1>This is a Heading</h1>
<p id="para1">This is a paragraph.</p>
<p>This is another paragraph.</p>
```

```
#para1 {
    color: red;
}
```

# EXERCISES 3

- Change the color of all elements with the class "colortext", to "red".



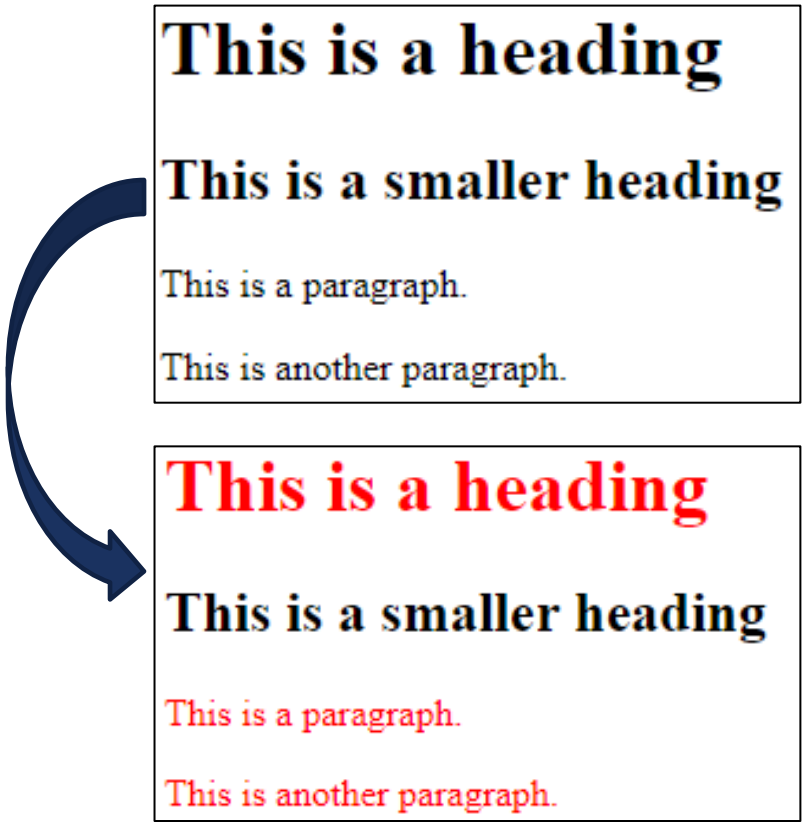

```
<h1>This is a Heading</h1>
<p>This is a paragraph.</p>
<p class="colortext">This is another paragraph.</p>
<p class="colortext">This is also a paragraph.</p>
```

```
.colortext {
    color: red;
}
```

```
p.colortext {
    color: red;
}
```

# EXERCISES 4

- Change the color of all <p> and <h1> elements, to "red".




```
<h1>This is a heading</h1>
<h2>This is a smaller heading</h2>
<p>This is a paragraph.</p>
<p>This is another paragraph.</p>
```

```
h1 {
    color: red;
}

p {
    color: red;
}
```

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

# MULTIPLE STYLE SHEETS

- If some properties have been defined for the **same selector** (element) in **different style sheets**, the value from the **last read style sheet** will be used.

# MULTIPLE STYLE SHEETS

- Example

```
<h1>This is a heading</h1>
<p>The style of this document is a combination of an external stylesheet, and internal
style</p>
```

mystyle.css

```
h1 {
    color: navy;
    margin-left: 20px;
}
```

```
<head>
<link rel="stylesheet" type="text/css" href="mystyle.css">
<style>
h1 {
    color: orange;
}
</style>
</head>
```

**This is a heading**

The style of this document is a combination of an external stylesheet, and internal style

# MULTIPLE STYLE SHEETS

- Example

```
<h1>This is a heading</h1>
<p>The style of this document is a combination of an external stylesheet, and internal
style</p>
```

mystyle.css

```
h1 {
    color: navy;
    margin-left: 20px;
}
```

```
<head>
<style>
h1 {
    color: orange;
}
</style>
<link rel="stylesheet" type="text/css" href="mystyle.css">
</head>
```

**This is a heading**

The style of this document is a combination of an external stylesheet, and internal style

# CASCADING ORDER

- **What style will be used when there is more than one style specified for an HTML element?**
- Generally speaking we can say that all the styles will "cascade" into a new "virtual" style sheet by the following rules, where number one has the highest priority:
  1. **Inline style (inside an HTML element)**
  2. **External and internal style sheets (in the head section)**
  3. **Browser default**
- So, an inline style (inside a specific HTML element) has the highest priority, which means that it will override a style defined inside the <head> tag, or in an external style sheet, or a browser default value.

# CASCADING ORDER

```
<!DOCTYPE html>
<html>
<head>
  <link rel="stylesheet" type="text/css" href="mystyle.css">
  <style>
      body {background-color: linen;}
  </style>
</head>
<body style="background-color: red">

<h1>Multiple Styles Will Cascade into One</h1>
<p>In this example, the background color is set inline, in an internal stylesheet, and in an
external stylesheet.</p>
<p>Try experimenting by removing styles to see how the cascading stylesheets work. (try
removing the inline first, then the internal, then the external)</p>

</body>
</html>
```


Thank You