



# CSS Fundamentals

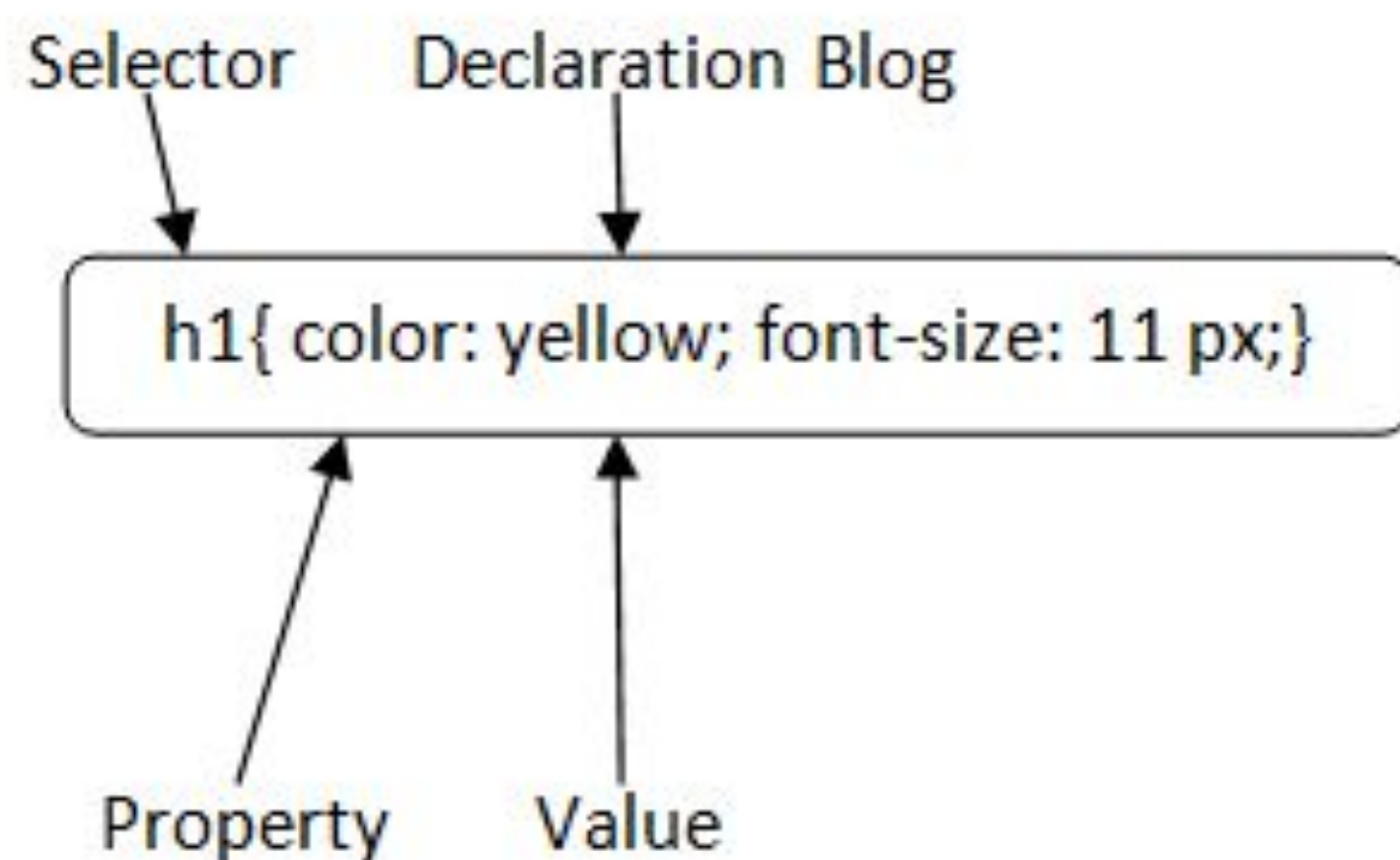
## Introduction

# What is CSS?

Cascading Style Sheets, fondly referred to as CSS, is a simple design language intended to simplify the process of making web pages presentable.

# CSS Syntax

A CSS rule set contains a selector and a declaration block.



CSS syntax

**Selector:** Selector indicates the HTML element you want to style. It could be any tag like `<h1>`, `<title>` etc.

**Declaration Block:** The declaration block can contain one or more declarations separated by a semicolon. For the above example, there are two declarations:

- `color: yellow;`
- `font-size: 11 px;`

Each declaration contains a property name and value, separated by a colon.

***Selector {property1: value; property2: value ;}***

# CSS Selector

CSS selectors are used to select the content you want to style. Selectors are the part of CSS rule set. CSS selectors select HTML elements according to its id, class, type, attribute etc.

There are several different types of selectors in CSS.

1. CSS Element Selector
2. CSS Id Selector
3. CSS Class Selector
4. CSS Universal Selector
5. CSS Group Selector

# I. CSS Element Selector

The element selector selects the HTML element by name (like tag name).

Let's have a look at the example of Element Selector:

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

This gives the Paragraph `<p>` element a blue color and centers it inside the container

## 2. CSS Id Selector

The id selector selects the id attribute of an HTML element to select a specific element. An id is always unique within the page so it is chosen to select a single, unique element.

It is written with the hash character (#), followed by the id of the element.

Let's take an example with the id "para1".

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

### Implementation

```
<p id="para1">Hello Javatpoint.com</p>
```



## 3. CSS Class Selector

The class selector selects HTML elements with a specific class attribute. It is used with a period character . (full stop symbol) followed by the class name.

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

### Implementation

```
<h1 class="center">This heading is blue and center-aligned.</h1>
```

```
<p class="center">This paragraph is blue and center-aligned.</p>
```

## 4. CSS Universal Selector

The universal selector is used as a wildcard character. It selects all the elements on the pages.

```
* {  
  color: green;  
  font-size: 20px;  
}
```



## 5. CSS Group Selector

The grouping selector is used to select all the elements with the same style definitions. Grouping selector is used to minimize the code.

Commas are used to separate each selector in grouping.

Let's see the CSS code without group selector.

```
h1 {  
  text-align: center;  
  color: blue;  
}  
h2 {  
  text-align: center;  
  color: blue;  
}  
p {  
  text-align: center;  
  color: blue;  
}
```

Let's see the CSS code with group selector.

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

# How to add CSS

CSS is added to HTML pages to format the document according to information in the style sheet.

There are three ways to insert CSS in HTML documents.

- Inline CSS
- Internal CSS
- External CSS

# Inline CSS

We can apply CSS in a single element by inline CSS technique.

The inline CSS is also a method to insert style sheets in HTML document. This method mitigates some advantages of style sheets so it is advised to use this method sparingly.

If you want to use inline CSS, you should use the style attribute to the relevant tag.

Syntax:

```
<htmltag style="cssproperty1:value; cssproperty2:value;"> </htmltag>
```

Example:

```
<h2 style="color:red;margin-left:40px;">Inline CSS is applied on this heading.</h2>
```

```
<p>This paragraph is not affected.</p>
```

# Internal CSS

The internal style sheet is used to add a unique style for a single document. It is defined in `<head>` section of the HTML page inside the `<style>` tag.

Example:

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
    background-color: linen;
}
h1 {
    color: red;
    margin-left: 80px;
}
</style>
</head>
<body>
<h1>The internal style sheet is applied on this heading.</h1>
<p>This paragraph will not be affected.</p>
</body>
</html>
```

# External CSS

The external style sheet is generally used when you want to make changes on multiple pages. It is ideal for this condition because it facilitates you to change the look of the entire web site by changing just one file.

It uses the <link> tag on every pages and the <link> tag should be put inside the head section.

Example:

```
<head>
```

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

```
</head>
```

The external style sheet may be written in any text editor but must be saved with a .css extension.

This file should not contain HTML elements

Let's take an example of a style sheet file named "mystyle.css".

File: mystyle.css

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



# CSS - Measurement Units

CSS supports a number of measurements including absolute units such as inches, centimeters, points, and so on, as well as relative measures such as percentages and em units. You need these values while specifying various measurements in your Style rules e.g. border = "1px solid red". We have listed out all the CSS Measurement Units along with proper Examples –

Unit	Description	Example
%	Defines a measurement as a percentage relative to another value, typically an enclosing element.	p {font-size: 16pt; line-height: 125%;}
cm	Defines a measurement in centimeters.	div {margin-bottom: 2cm;}
em	A relative measurement for the height of a font in em spaces. Because an em unit is equivalent to the size of a given font, if you assign a font to 12pt, each "em" unit would be 12pt; thus, 2em would be 24pt.	p {letter-spacing: 7em;}
ex	This value defines a measurement relative to a font's x-height. The x-height is determined by the height of the font's lowercase letter x.	p {font-size: 24pt; line-height: 3ex;}
in	Defines a measurement in inches.	p {word-spacing: .15in;}
mm	Defines a measurement in millimeters.	p {word-spacing: 15mm;}
pc	Defines a measurement in picas. A pica is equivalent to 12 points; thus, there are 6 picas per inch.	p {font-size: 20pc;}
pt	Defines a measurement in points. A point is defined as 1/72nd of an inch.	body {font-size: 18pt;}
px	Defines a measurement in screen pixels.	p {padding: 25px;}



# CSS - Colors

CSS uses color values to specify a color. Typically, these are used to set a color either for the foreground of an element (i.e., its text) or else for the background of the element. They can also be used to affect the color of borders and other decorative effects.

You can specify your color values in various formats. Following table lists all the possible formats –

Format	Syntax	Example
Hex Code	#RRGGBB	p{color:#FF0000;}
Short Hex Code	#RGB	p{color:#6A7;}
RGB %	rgb(rrr%,ggg%,bbb%)	p{color:rgb(50%,50%,50%);}
RGB Absolute	rgb(rrr,ggg,bbb)	p{color:rgb(0,0,255);}
keyword	aqua, black, etc.	p{color:teal;}

# CSS - Backgrounds

You can set the following background properties of an element –

- The **background-color** property is used to set the background color of an element.
- The **background-image** property is used to set the background image of an element.
- The **background-repeat** property is used to control the repetition of an image in the background.
- The **background-position** property is used to control the position of an image in the background.
- The **background-attachment** property is used to control the scrolling of an image in the background.
- The **background** property is used as a shorthand to specify a number of other background properties

# CSS - Fonts

You can set following font properties of an element –

The font-family property is used to change the face of a font.

The font-style property is used to make a font italic or oblique.

The font-variant property is used to create a small-caps effect.

The font-weight property is used to increase or decrease how bold or light a font appears.

The font-size property is used to increase or decrease the size of a font.

The font property is used as shorthand to specify a number of other font properties.

## Set the Font Family

Following is the example, which demonstrates how to set the font family of an element. Possible value could be any font family name.

```
<html>
  <head>
  </head>
  <body>
    <p style = "font-family:georgia,garamond,serif;">
      This text is rendered in either georgia, garamond, or the
      default serif font depending on which font you have at your system.
    </p>
  </body>
</html>
```

**THANK  
YOU!**