

CSS Basics

- How
- appearance
- styling
- formatting

↓

Cascading style sheet

## Selectors in CSS

→ In a way → Select an element

Selector

```
table {
  border: 1px solid black;
}
```

↓                      ↓

property            value

### Simple Selector

i) Element Selector / Type Selector / Tag Selector

→ CSS can select HTML element by using an element's tag name. A tag name is the word b/w HTML angle brackets

```
<style>
p {
  color: red;
}
```

tag / element name      ↓      property      ↓      value

<p> This is my Para </p>



## (ii) Class Selector

- CSS is not limited to selecting elements by tag name. HTML elements can have more than just a tag name; they can also attributes. One common attribute is the class attribute. It's also possible to select an element by its class attribute.
- A period (.) must be prepended to the class's name.

text {  
 color: green;  
 }  
 <p class="green"> A B C D </p>  
 <p class="green"> P Q R S </p>  
 <p class="blue"> X Y Z </p> → text {  
 color: blue;  
 }

• green {  
 color: green;  
 }  
 • blue {  
 color: blue;  
 }

## (iii) ID Selector

- For situations where you need more specificity in styling you may also select elements for CSS using an id attribute. You have different ids associated with a class attribute.
- The id attribute can be added to an element, along with a class attribute. On the CSS side, the delineation is made by using (#) to represent an id, the same way . is used for class.

## (iv) Pseudo-class Selector

- A CSS pseudo-class is a keyword added to a selector that describes a special state of the selected element.



Eg : Hover can be used to change a button's color when the user's pointer hovers over it.

selector : pseudo class

a → visited  
    ↙ unvisited  
      ↘ hover  
        ↘ active

### Multiple Selector / Grouping Selector

- A grouping selector select all the HTML elements with the same style definitions
- It will be better to group the selector to minimize the code
- To group selector, separate each selector with a (,) comma

table, tr, td {

border : 1px solid red;

}

### Universal Selector

Universal Selector (\*) selects all the HTML elements

Eg \* {

color : red;

}



Visited Selector



Just like in HTML where you can have elements nested inside other elements, the same can be done in CSS.

Four different combinators in CSS:-

(i) descendant selector (space)

```
div p {
  color: yellow;
}
```

(ii) child selector (>)

```
div > p {
  color: yellow;
}
```

(iii) Adjacent sibling selector (+)

```
div + p {
  color: yellow;
}
```

(iv) general sibling selector (~)

```
div ~ p {
  color: yellow;
}
```

### Attribute Selector

The [Attribute] Selector is used to select elements with a specified attribute.

Eg. a[target] {  
color: red;



## How to add styling in HTML?

- Inline
- Internal
- External

### Inline CSS

- To style an HTML element you can add the style attribute directly to the opening tag

Eg `<p style="color: red;">Pranjal</p>`

### Internal CSS

- An internal style sheet may be used if one HTML page has a unique style.
- HTML allows us to write CSS code inside the `<style>` element, inside the head section

```
<html>
```

```
<head>
```

```
<style>
```

```
h1 {
```

```
color: red;
```

```
}
```

```
</style>
```

```
</head>
```

```
</html>
```

### External CSS

- HTML & CSS code are in separate files



Eg `<link rel="stylesheet" href="style.css">`

## Specificity Hierarchy

- Every CSS Selector has its place in the specificity hierarchy.
- There are four categories which define the specificity level of a selector.

### (i) Inline Styles

- \* ID
- \* Classes, pseudo-classes, attribute selectors
- \* Elements and pseudo-elements

| Style attribute     | ID | classes, pseudo-classes, attributes | elements            |
|---------------------|----|-------------------------------------|---------------------|
| Highest specificity |    |                                     | → Lower specificity |

Specificity → If there are two or more CSS rules that point to the same element, the selector with highest specificity value will "win", and its style declaration will be applied to that HTML element.

## ! Important Rule

- The ! important rule in CSS is used to add more importance to a property value than normal.
- If you use the ! important rule, it will override all previous styling tag rules.

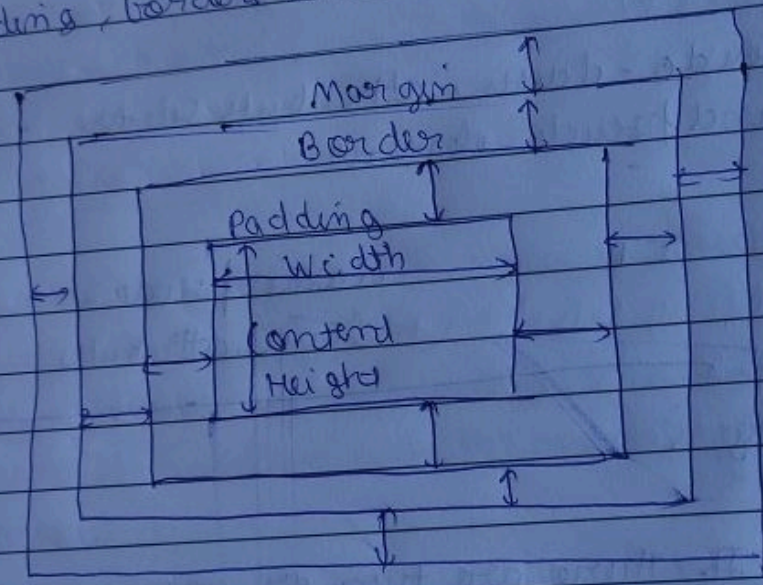
● ● ○ ○ good to know about the ! important rule However you absolutely have to



Eg p.s  
color: red ! important;  
}

## Box Model in CSS

- The box model is the basic building block of CSS.
- Acc. to the box model concept every element on a page is a rectangular box and may have width, height, padding, border and margin.



Content:- The Content of the box, where the text and image appear

Padding:- clear area around the content. The padding is transparent.

Border:- Border goes around the padding & content.

Margin:- clear area outside the border the margin is transparent.



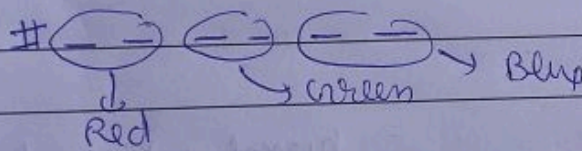
## Colours in CSS

Colours in CSS can be specified by the following Methods:

- Hexadecimal colours
- RGB colours
- Predefined / browser color names
- RGBA colours
- HSL colours
- HSLA colours

### Hexadecimal colours

→ 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 b/w 00 and FF



Blue → #0000FF

Green → #00FF00

Red → #FF0000

Black → #000000

White → #FFFFFF

### RGB Colours

- 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 integer b/w 0 and 255 or a percentage value (from 0% to 100%)

rgb(      ,      ,      )  
          ↑       ↑       ↑  
         Red   Green   Blue



## Predefined / Cross-browser color names

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

For please time:-

→ Font

- + font-family
- + font-weight
- + font-style
- + Emphasis & importance
- + How to add external fonts?

→ Homework

H/W → Overflow

## Unit in CSS

1. Absolute Unit
2. Percentage Unit
3. Relative Unit

pixel  $\rightarrow \frac{1}{96}$  inch

- 1. Relative to font size
- 2. Related to document

## Absolute Unit

→ Smallest Unit

(i) mm

(ii) cm

(iii) in

(iv) px  $\rightarrow \frac{1}{96}$  inch



## Percentage Unit

→ `div2`

`width: 10%;`

2

10% of

parent element  
width

10% of 500px

$$\frac{10}{100} \times 500 = 50\text{px}$$

div1 — parent

div2

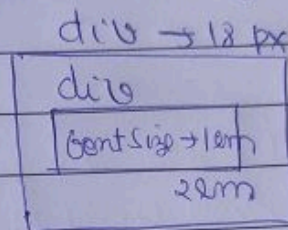
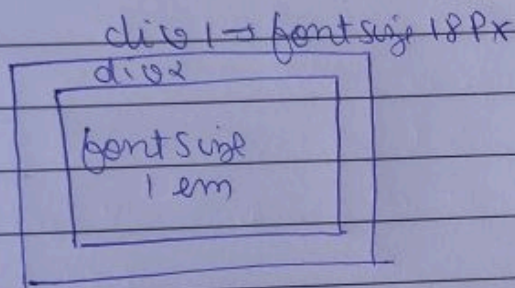
100px

500px

## Relative unit to font size

→ `em` → relative to parent element font size

→ `2em`



$$1\text{em} \rightarrow 1 \times 18 = 18$$

$$2\text{em} \rightarrow 2 \times 18 = 36$$

$$1\text{em} = 1 \times 18 = 18\text{px}$$

$$2\text{em} = 2 \times 18 = 36\text{px}$$

`1em` → relative to root element (html)

html → font-size → 16px

$$1\text{em} = 1 \times 16\text{px} = 16\text{px}$$

## Relative unit to viewport (display)

• `vw` →  $\frac{1}{100} \times$  width of viewport

• `vh` →  $\frac{1}{100} \times$  height of viewport