CSS Basics - I

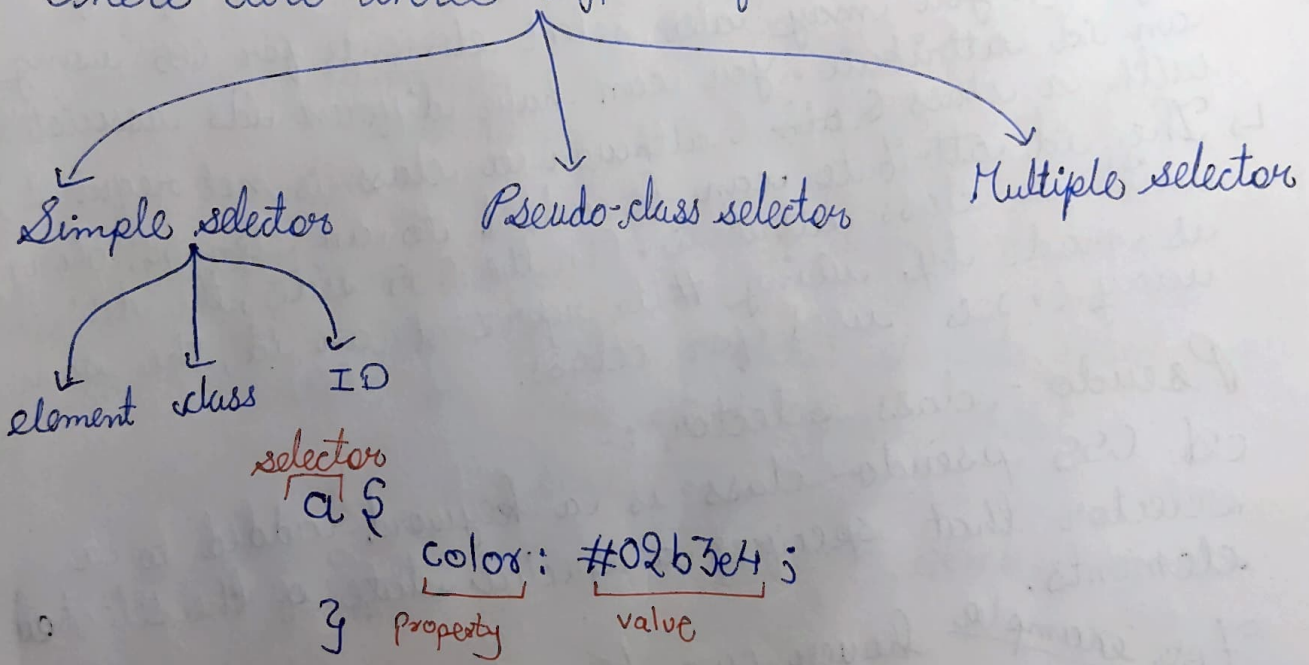
HTML → What is on webpage.
- ↳ Description of webpage
- ↳ Skeleton of webpage

CSS → How content will appear?
- ↳ appearance of webpage
- ↳ styling of website
- ↳ formatting of website

CSS stands for Cascading Style Sheets

Selectors in CSS?
- ↳ is a way using which we can select an element.

There are three type of selectors:




```
selector
a {
    color: #02b3e4;
}
```
property — value

Element Selector :-

CSS can select HTML elements by using an elements tag name. A tag name is the word (or character) between HTML angle brackets.

It is also called type selector or tag selector.

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 have attribute. One common attribute is the class attribute. It's also possible to select an element by its class attribute.

↳ To select an HTML element by its class using CSS, a period (.) must be prepended to the class's name.

```
.green {
    color : green;
}
```

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

ID selector :-

↳ For situations where you need more specificity in styling, you may also select elements for CSS using an id attribute. You can have different ids associated with a class (although a class is not required).

↳ 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.

Pseudo-class selector :-

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

For example hover can be used to change a button's color when the user's pointer hovers over it.

```
button:hover{
    color:yellow;
}
```

Multiple Selector / Grouping selector

We can select multiple HTML elements in the same CSS rule by separating them with commas.

```
table, tr, td
{
    border: 1 px solid black;
}
```

Universal selector:-

↳ The CSS universal selector (*) matches element of any type.

↳ This is useful when dealing with documents containing multiple namespace.

↳ It will apply to all html elements.

```
* {
    margin : 0;
    padding : 0;
}
```

Attribute selector :-

The CSS attribute selector matches elements based on the presence or value of a given attribute.

```
input [type='text'] {
        border: 2 px solid black;
}
```

Nested element selector :-

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

```
#table1 > tr > #th4 {
        color: red;
}
```

How to add styling in HTML?

There are three ways to add styling:

1] inline
2] internal
3] external

1] Inline CSS :-

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

```
<div class="main" style="font-size : 150 px;">
```

Inline style should be avoided at all costs because they make it impossible to alter styles from an external stylesheet.

2] Internal CSS :-

Inline styles are a fast way of styling, but they also have limitation.

If we want all heading size 72 px but in inline CSS you have to write same code in every heading tag H1.

But in internal CSS you can add CSS in style tag under head element.

```
<head>
    <style>
        H1{
            font-size: 72 px;
        }
    </style>
</head>
```

3] External CSS

When HTML & CSS code are in separate files, the file must be linked.

You can use the <link> element to link HTML & CSS files together.

The <link> element must be placed within the head of the HTML file.

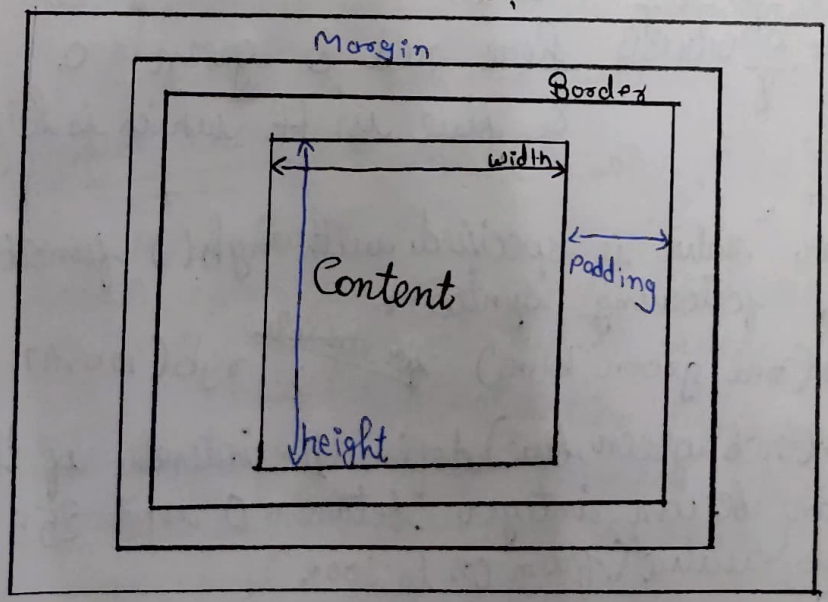
```
<link rel="stylesheet" href="style.css">
```

Specificity :-

Because elements can have multiple CSS selector, there is a hierarchy for the weight given to each type of selector.

Inline CSS
↑
ID
↑
Class, pseudo-classes, attribute selector
↑
Element, pseudo-elements

Box Model in CSS.



The box model is basic building block of CSS.

Every element on a page is a rectangular box and may have width, height, padding, border & margin.

Content :- The content of the box, where text & images appear.

padding : clears an area around the content. The padding is transparent.

border : A border that goes around the padding & content.

margin : clears an area outside the border. The margin is transparent.

Colors in CSS :-

Colors in CSS can be specified by the following method

- ↳ Hexadecimal colors
- ↳ RGB colors
- ↳ Predefined / cross browser color name
- ↳ RGBA colors
- ↳ HSL colors
- ↳ HSLA colors

↳ Hexadecimal colors :-

A hexadecimal color is specified with #RRGGBB, where the RR (red), GG (green) & BB (blue) hexadecimal integer specify the components of the color. All values must be between 00 & FF.

For example #0000ff = Blue
#RRGGBB
here red & green = 0
& blue is ff which is highest.

↳ RGB colors :-

An rgb color value is specified with rgb( ) function, which has the following syntax :-

rgb(red, green, blue) for example rgb(100, 47, 7)

Each parameter (red, green, blue) define the intensity of the color and can be an integer between 0 and 255 or a percentage value (from 0% to 100%).

↳ Predefined / Cross-browser color name :-

140 color names are predefined in the HTML & CSS color specification.

↳ RGBA colors :-

RGBA color values are an extension of RGB color value with alpha channel - which specifies the opacity for a color.

An RGBA color value is specified with :

rgba (red, green, blue, alpha)

The alpha parameter is a number between 0.0 (fully transparent) and 1.0 (fully opaque).

for example rgba (255, 0, 0, 0.8);

↳ HSL color :-

HSL stands for Hue, Saturation & Lightness.

hsl (hue, saturation, lightness).

1. Hue is a degree on the color wheel (from 0 to 360)
   - 0 (or 360) is red
   - 120 is green
   - 240 is blue
2. Saturation is a percentage value : 100% is the full color.
3. Lightness is also a percentage; 0% is dark (black) & 100% is white.

for example hsl (0, 100%, 50%);

↳ HSLA color :-

HSLA color values are an extension of HSL color value with alph channel - which specifies the opacity for color.

hsla (hue, saturation, lightness, alpha)

The alph parameter is number between 0.0 (fully transparent) & 1.0 (fully opaque.)

forexample hsla (0, 100%, 30%, 0.3);

Font in CSS :-

Font selection is Important.
The right font can create a strong identity for your brand.
Using a font that easy to read is important.

Font-family :-

In CSS there are five generic font families.

1. Serif
2. Sans-serif
3. Monospace
4. Cursive
5. Fantasy

a font family is a set of fonts that have a common design.

Font-weight

The font-weight CSS property sets the weight (or boldness) of a font.

Font-style :-

The font-style CSS property sets weather a font should be styled with a normal, italic, or oblique face from its font-family.

How to add external font ?

```
@font-face {
        font-family : myFirstFont;
        src : url(sansation_light.woff);
}
```

Units in CSS

1. Absolute unit : mm , cm , in , pxc = $\frac{1}{96}$ inch
2. Percentage unit : div{width:10%;} 10% of parent div
3. Relative unit
   - Relative to font size
     - em => Related to parent element
     - rem => Related to root element
   - Related to Document
     - vw => $\frac{1}{100}$ x width of viewport
     - vh => $\frac{1}{100}$ x height of viewport