

CSS

Cascading Style Sheets

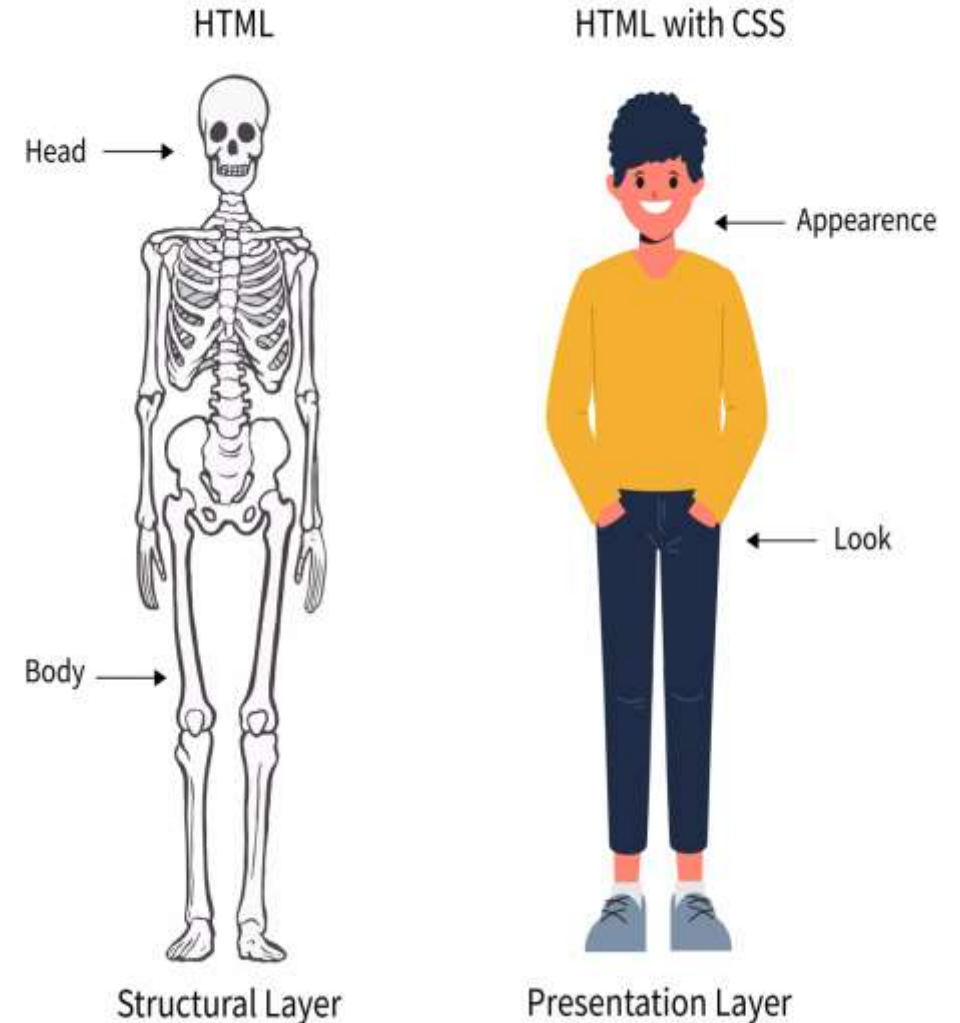
What is CSS?

- CSS stands for Cascading Style Sheets.
- If HTML is the structure of the house then CSS is the look and feel of the house.
- It's the Language to make our WebPages presentable
- Designed to make style sheets for web.
- Now let's try to break the acronym:

Cascading: Falling of Styles

Style: Adding designs/ Styling our HTML Tags

Sheets: Writing our style in different documents



CSS Basic Structure

Selector{

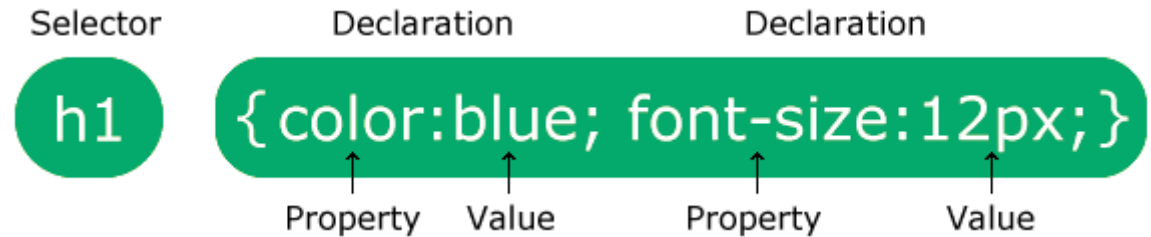
Property1:value;

Property2:value;

Property3:value;

}

- Selector: Selects the element you want to target
- There are few basic selectors like tags, id's and classes.
- All forms this key - value pair.
- Keys: Properties(attributes) like color, font-size, background, width, height etc.
- Value: Values associated with these properties.
- Always remain same when we apply internal or external styling.



CSS Comments

- CSS comments are not displayed in the browser
- Helps to understand our code better. And Helps for debugging our code.
- A CSS starts with `/*` and ends with `*/`

- Example

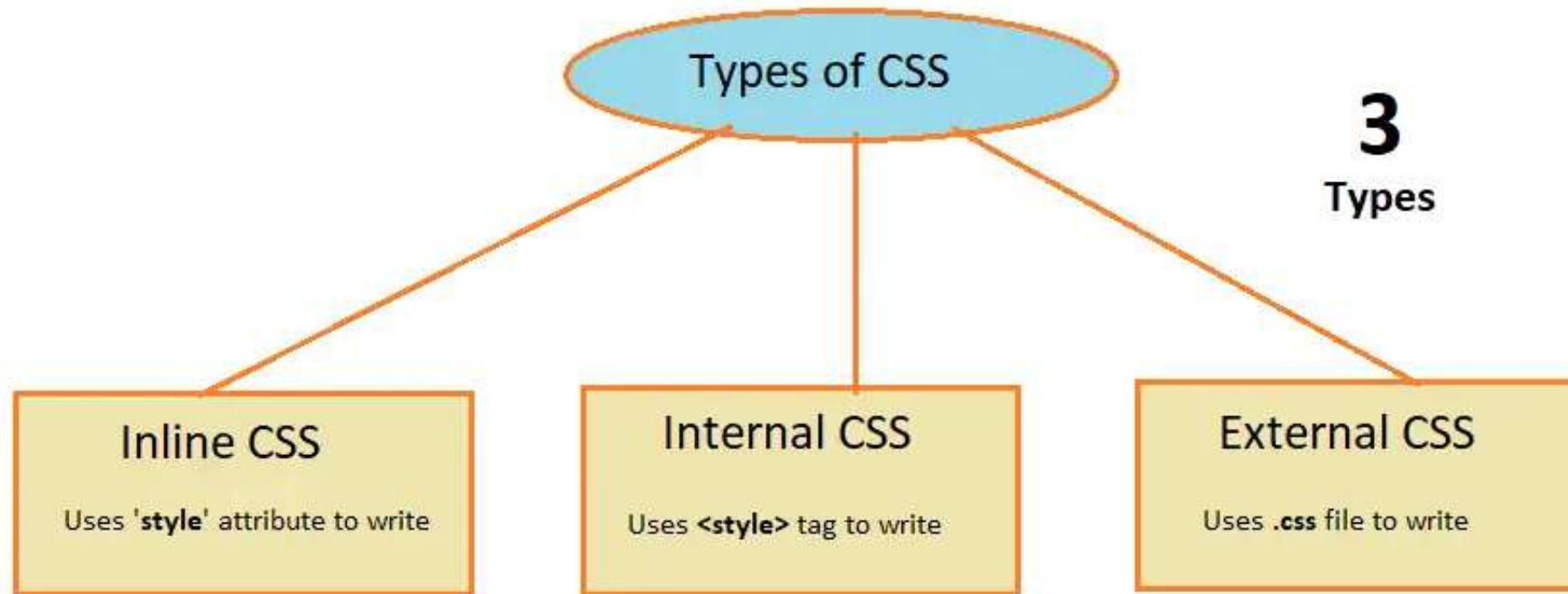
```
p {
    color: red;  /* This is a single-line comment */
}
```

- Example

```
/* This is
a multi-line
comment */
p {
    color: red;
}
```



Types of CSS



- Priority Order
 - Inline > Internal > External

Inline CSS

- Before CSS this was the only way to apply styles.
- Not an efficient way to write as it has lot of redundancy
- Self Contained
- Uniquely applied on each element
- Idea of separation of concern was lost
- Example

```
<h1 style="color: blue;">Myprograming</h1>
```

```
<p style="font-size: 25px;font-weight: 700;">  
This is Inline CSS</p>
```

Internal CSS

- With the help of style tag we can apply styles within the HTML file.
- Redundancy is removed
- But Idea of separation of concerns still lost
- Uniquely applied to single document
- Example

```
<style>
    h1{
        color:red;
    }
</style>
<h1>Have a great day</h1>
```

External CSS

- With the help of <link> tag in head tag we can apply styles.
- Reference is added.
- File saved with .css extension
- Redundancy is removed
- Idea of separation of concerns is maintained
- Uniquely applied on each document
- Example

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

h1{

    color:red;

}
```


Implementation of all the three types of CSS:

```
<!DOCTYPE html>
<html>
<head>
    <title>CSS</title>
    <link rel="stylesheet" type="text/css" href="first.css">
<style>
    h1
    {
        color:green;
    }
</style>
</head>
<body>
    <h1>This heading will be green</h1>
    <p style="color:Red">This paragraph will be red</p>
    <p id="center">This paragraph will be pink and center-aligned</p>
</body>
</html>
```

This is Css file

```
#center {
    text-align: center;
    color:purple;
}
```

This heading will be green

This paragraph will be red

This paragraph will be pink and center-aligned

CSS Selectors

Selectors

- Selectors are used to target elements and apply CSS
- Five simple selectors
 - Element selector (type)
 - Id Selector (#)
 - Class Selector (.)
 - Group Selector (,)
 - Universal Selector (*)
- Priority of selectors
 - Id > Class > Element

Element Selector

- Used to select HTML elements by it's name
- How do we do it?

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

We selected the heading tag and then changed the color property i.e text color to red Now whatever is written in this tag (content) will have the text color as red

ID Selector

- ID attribute is used to select HTML element
- Used to target specific or unique element
- How do we do it?

```
#demo {  
    color:red;  
}  
  
<h1 id="demo">Hello</h1>
```

We selected id and then changed the color property i.e text color to red Now whatever is written in this tag (content) will have the text color as red

Class Selector

- Class attribute is used to select HTML element
- Used to target specific class of element
- How do we do it?

```
.group {  
    color:red;  
}  
  
<h1 class="group">Hello</h1>
```

We selected class and then changed the color property i.e text color to red Now whatever is written in this tag (content) will have the text color as red

Id vs Class

The following are the important differences between Id and Class.

Sr. No.	Key	Id	Class
1	Syntax	In Html for an element ID name starts with the “#” symbol followed by a unique name assigned to it.	On the other hand class assigned to an element has its name starts with “.” followed by class name.
2	Selector	Only one ID selector can be attached to an element.	Multiple class selectors can be attached to an element.
3	Uniqueness	Id is unique in a page and can only apply to at most one element	The class can be applied to multiple elements so it could be multiple times on a single page.

Implementation of all the three types of Selectors:

```
<head>
    <title>CSS Selectors</title>
<style>
    #center1 {
        text-align: center;
        color:blue;
    }
    .center2 {
        text-align: center;
        color:red;
    }
    h1{
        text-align:center;
        color:green;
    }
</style>
</head>
<body>
    <h1>This heading will be green and center-aligned </h1>
    <p class = "center2">This paragraph will be red and center-aligned </p>
    <p id ="center1">This paragraph will be blue and center-aligned</p>
</body>
</html>
```

This heading will be green and center-aligned

This paragraph will be red and center-aligned

This paragraph will be blue and center-aligned

CSS Color

Color	Colorname	Hex	(R,G,B)
	Black	#000000	(0,0,0)
	White	#FFFFFF	(255,255,255)
	Red	#FF0000	(255,0,0)
	Lime	#00FF00	(0,255,0)
	Blue	#0000FF	(0,0,255)
	Yellow	#FFFF00	(255,255,0)
	Cyan	#00FFFF	(0,255,255)
	Magenta	#FF00FF	(255,0,255)
	Silver	#C0C0C0	(192,192,192)
	Gray	#808080	(128,128,128)
	Maroon	#800000	(128,0,0)
	Olive	#808000	(128,128,0)
	Green	#008000	(0,128,0)
	Purple	#800080	(128,0,128)
	Teal	#008080	(0,128,128)
	Navy	#000080	(0,0,128)

RGBA

Color : Eton Blue

rgb(135, 187, 162)



<code>rgba(135, 187, 162, 0.2)</code>	20%
<code>rgba(135, 187, 162, 0.5)</code>	50%
<code>rgba(135, 187, 162, 0.8)</code>	80%
<code>rgba(135, 187, 162, 1)</code>	100%

Eton blue
color

Opacity

CSS Color

- There are different coloring schemes in CSS
- 3 widely used techniques are
 - **RGB**
 - This Starts with rgb and takes three parameters
 - 3 parameters basically correspond to red green and blue
 - Value of each parameter may vary from 0 to 255
 - Eg: rgb(255,0,0); means color red.
 - **HEX**
 - Hex code starts with # and comprises of 6 numbers which is further divided into 3 sets
 - Sets basically correspond to red green and blue
 - A single set value can vary from 00 to ff
 - Eg: #ff0000; means color red
 - **RGBA**
 - This starts with RGB and takes 4 parameter
 - 4 parameter basically corresponds to red, green, blue and alpha
 - Value of the first three parameters may vary from 0 to 255 and the last parameter ranges from 0 to 1 that is from 0.1, 0.2,.....0.9
 - Eg: rgba(255,0,0,0); means color red

Implementation of all the three types of color tags:

```
<!DOCTYPE html>
<html>
<head>
<style>
    #center{
        color:#ff0099;
        text-align:center;
    }
    h1{
        color:rgba(0,0,255);
    }
</style>
</head>
<body>
    <h1>This heading will be blue</h1>
    <h2 style="color:rgb(0,0,255,0.5)">This heading will be light blue</h2>
    <p style="color:rgb(255,0,0)">This paragraph will be red</p>
    <p id="center">This paragraph will be pink and center-aligned</p>

</body>
</html>
```



This heading will be blue

This heading will be light blue

This paragraph will be red

This paragraph will be pink and center-aligned

CSS Background

CSS Background

- **background-color**

The background-color property specifies the background color of an element.

- **background-image**

The Background-image property is used to set an image as a background of an element. By default the image covers the entire element

- **background-repeat**

By default, the background-image property repeats the background image horizontally and vertically. Some images should be repeated only horizontally or vertically, or they will look strange

- **background-position**

The Background-position property is used to define the initial position of the background-image. By default, the background-image is placed on the top-left of the webpage

- **background-attachment**

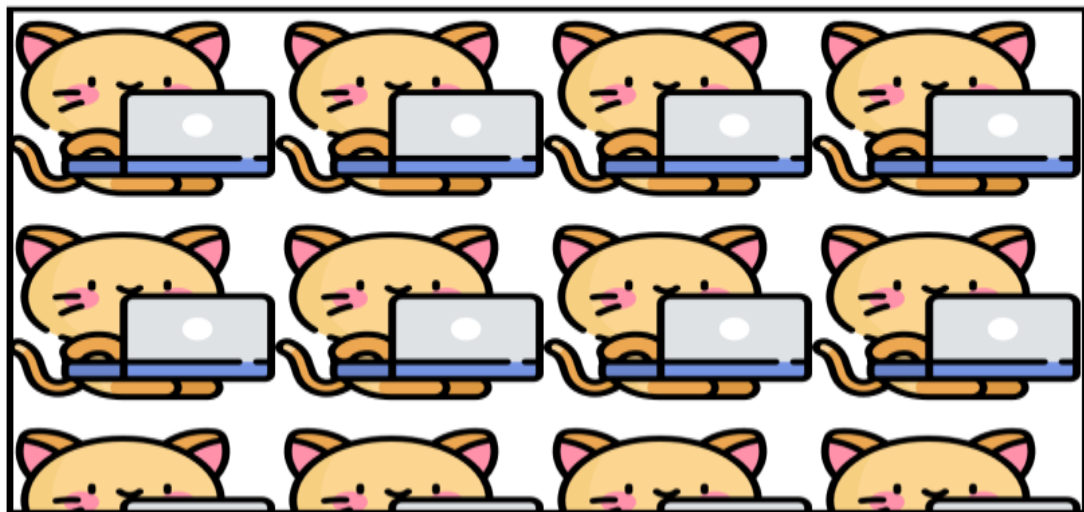
The background-attachment property specifies whether the background image should scroll or be fixed

- **background**

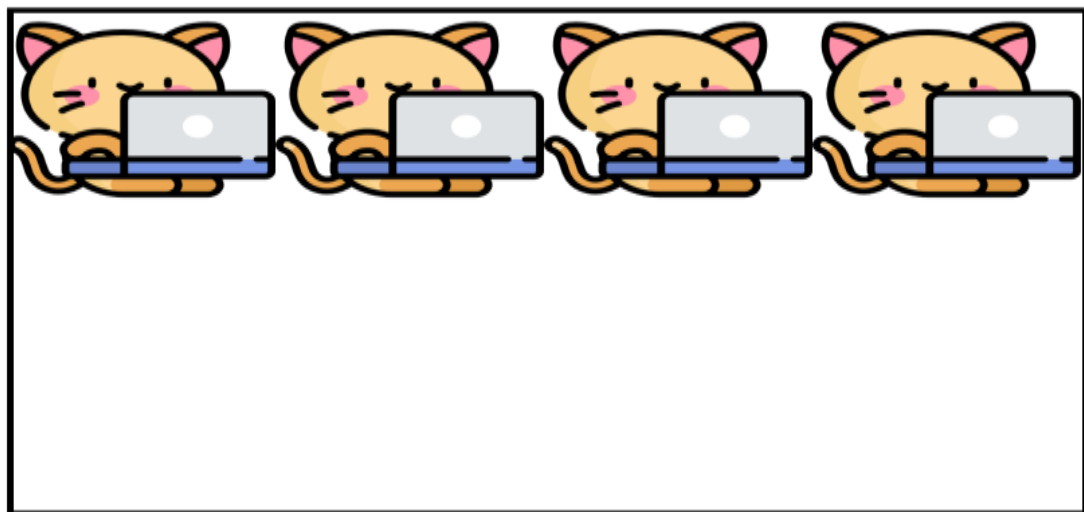
To shorten the code, it is also possible to specify all the background properties in one single property.

Background-repeat

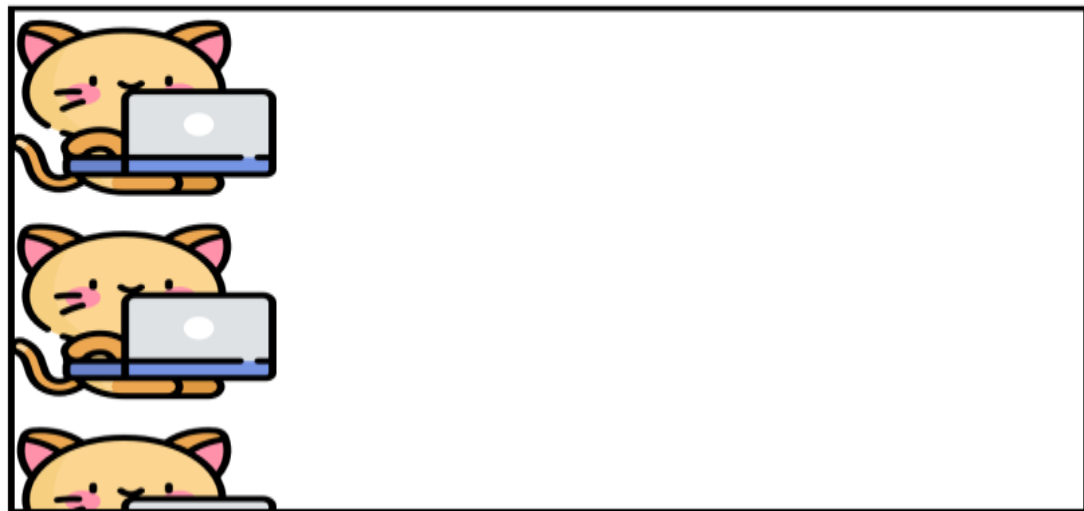
repeat



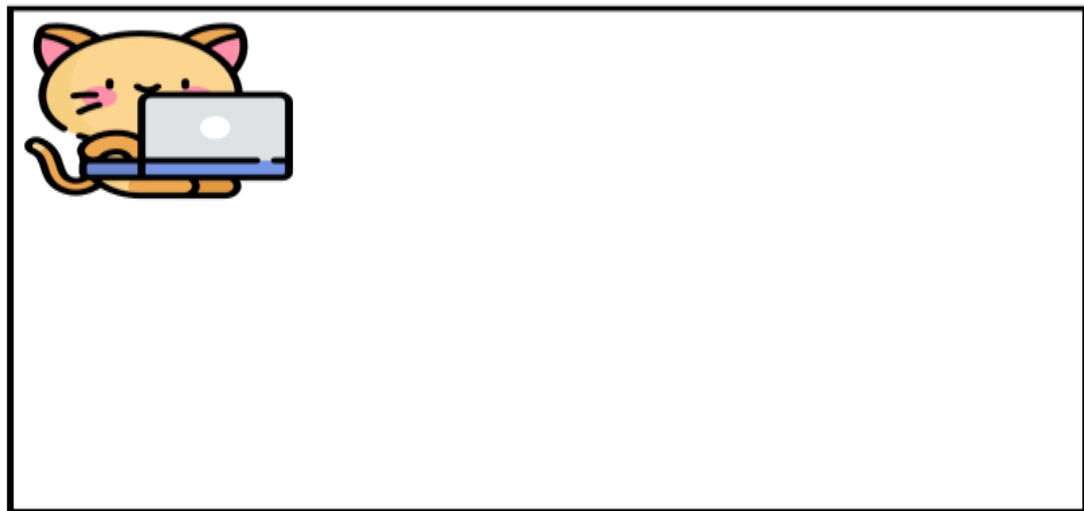
repeat-x



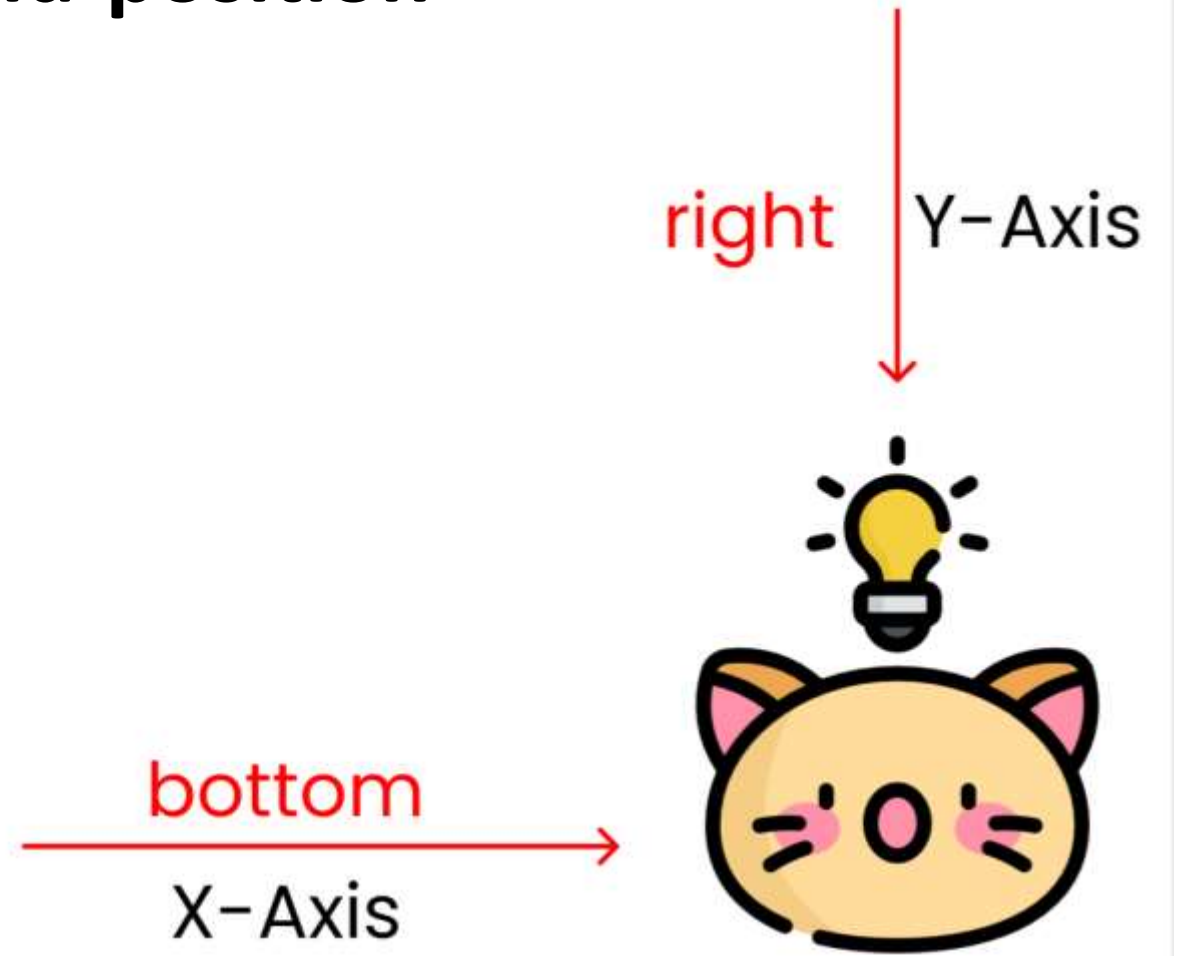
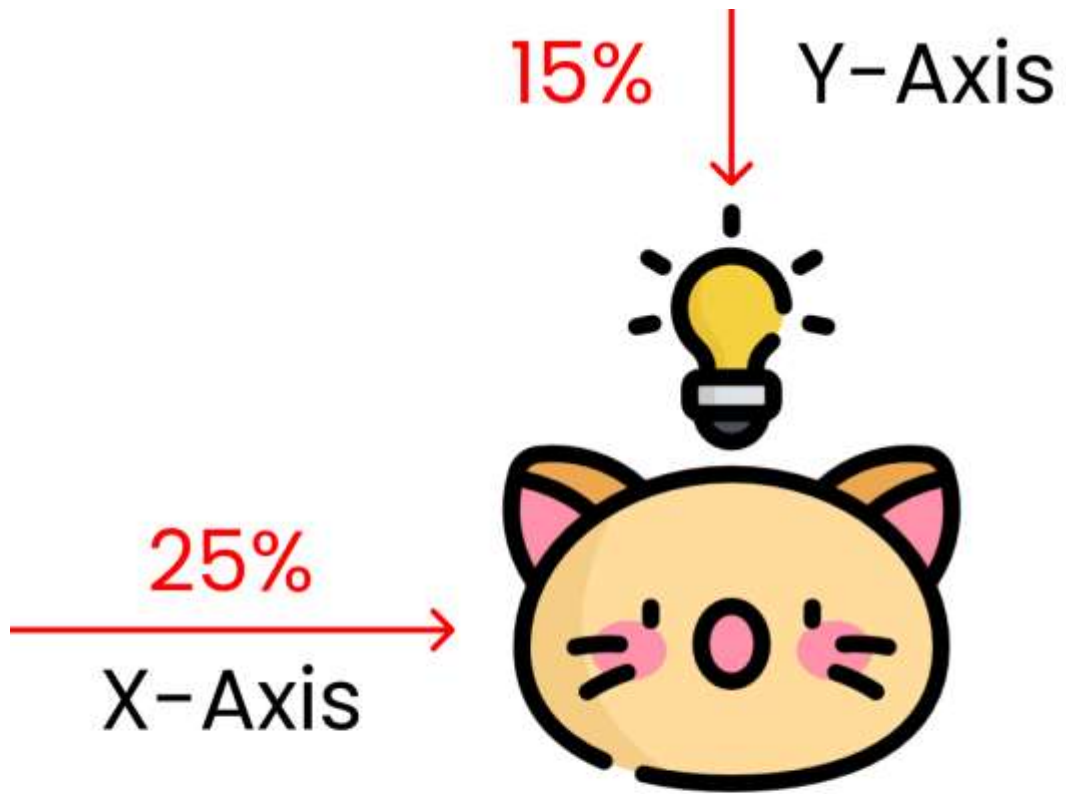
repeat-y



no-repeat



Background-position

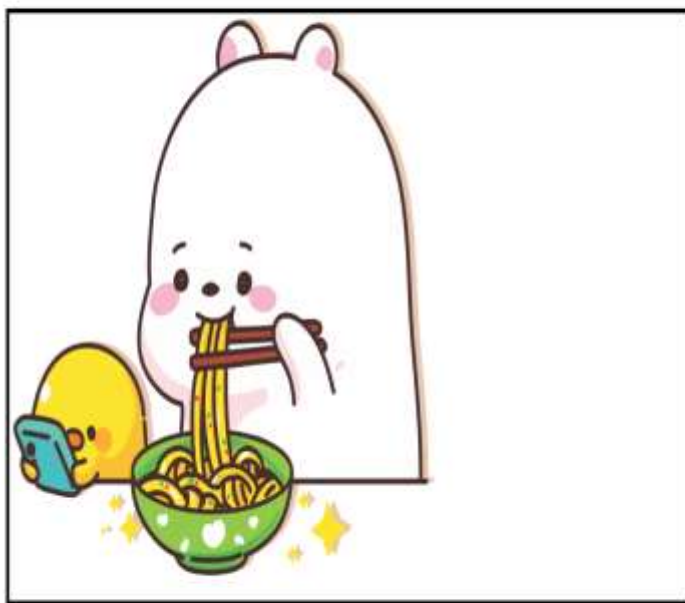


Background-Size

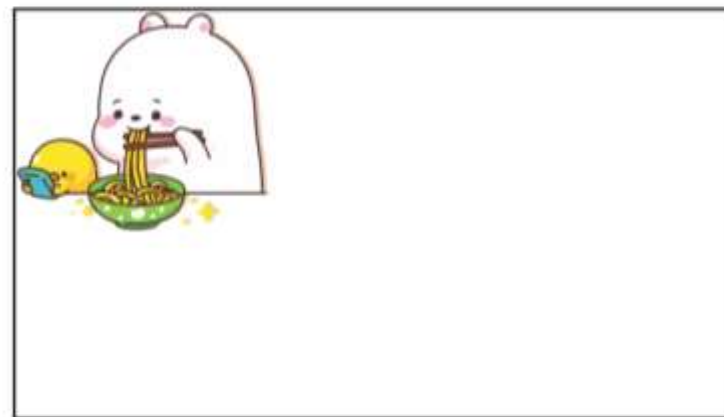
Cover



Contain



bear size : 200px x 200px



CSS Background

```
<style>
```

```
    body{
```

```
        color:white;
```

```
        background-color:black;
```

```
        background-image: url("download.jpg");
```

```
        background-repeat:no-repeat;                /*repeat-x    repeat-y */
```

```
        background-attachment:fixed;                /*    scroll    */
```

```
        background-position:center ;                /* top right, top left, bottom right, bottom left, center*/
```

```
        background-size:cover;                      /*contains 20% auto */
```

```
        /*background: #ffffff url("download.jpg") no-repeat center Scroll;*/
```

```
    }
```

```
</style>
```

```
</head>
```

```
<body>
```

```
    <h1>CodingHub </h1>
```

```
    <h2>Way to better Future</h2>
```

```
    <h2>Learn Java Get Placed</h2>
```

```
    <p>Welcome to codingHub</p>
```

```
</body>
```

CodingHub

Way to better Future

Learn Java Get Placed

Welcome to codingHub



CSS Border

CSS Border

solid

dashed

dotted

double

inset

outset

groove

ridge

CSS Border

- Helps in setting up the border for HTML elements
- There are 4 properties that can help in setting up of border
 - **Width** -Sets the width of the border. (in px, cm, em, etc) or thin, medium, thick
 - **Style** - Sets the style of border.
Eg: dotted, dashed, solid, double, groove, ridge, inset, outset, none
 - **Color** - Sets the color of border.
 - **Radius** – Determines the Roundness of the border
- You can set the border specifically for top, right, bottom, left
- We can also club top and bottom borders together and same goes for left and right.
 - Eg: border-width: 2px 5px; sets top and bottom 2px, left and right 5px
- Border can also be set in a single line
 - Eg: border: 2px solid blue;

CSS Border

```
<style>
```

```
#unique{
    border-style: solid;
    border-width: 5px;
    border-color: red blue green purple; /*top right bottom left*/
    border-radius: 15px;
    padding: 25px;
    margin-top: 20px;
}
.group{
    border-style: dashed;
    border-width: medium;
    border-color: green;
    border-radius: 8px;
    padding-top: 20px;
    margin:50px;
}
.demo{
    border:15px groove purple;
}
```

```
</style>
```

```
</head>
```

```
<body>
```

```
<h1 id="unique">CodingHub </h1>
<h2 id="unique">Way to better Future</h2>
<p class="group">Welcome to codingHub</p>
<p class="demo">Learn Java Get placed</p>
<p class="group"><a href="https://www.instagram.com" alt=CodingHub>Visit Our Instagram page for more info</a> </p>
<p class="demo">Contact us on www.codinghub.org.in</p>
```

```
</body>
```

```
</html>
```

CodingHub

Way to better Future

Welcome to codingHub

Learn Java Get placed

[Visit Our Instagram page for more info](#)

Contact us on www.codinghub.org.in

CSS Text and Font

CSS Text

- **Color/text color**

The color property is used to set the color of the text

- **Text Alignment**

The text-align property is used to set the horizontal alignment of a text.

A text can be left or right aligned, centered, or justified

- **Text Decoration**

The text-decoration property is used to set or remove decorations from text.

The value text-decoration: none is often used to remove underlines from links

- **Text Transformation**

The text-transform property is used to specify uppercase and lowercase letters in a text.

Eg: uppercase, lowercase, capitalize

CSS Font

CSS Font property is used to control the look of texts

- **Color/font color**

This property is used to change the color of the text.

- **Font Family**

This property is used to change the face of the font.

Serif: Serif fonts include small lines at end of characters.

Examples of serif: times new roman, Georgia,etc

- **Font Size**

This property is used to increase or decrease the size of the font.

- **Font Style**

This property has 3 values:

Normal- The text is shown normally

Italic- The text is shown in italic

Oblique- This font-style specifies an angle for the slant of the text.(Very Similar to italic)

Types of Web Fonts

Serif

Serif

Sans-Serif

Sans-Serif

Monospace

Monospace

Cursive

Cursive

Fantasy

Fantasy

CSS Font

- **Font Variant:**

font-variant property specifies how to set font variant of an element. It may be normal or small caps.

Code:

```
<style>
    p{ font-variant:small-caps; }
    h1{ font-variant:normal; }
</style>
```

- **Font Weight:**

font-weight property defines the weight of the font and specify that how bold a font is. The possible values of font weight may be normal, bold, bolder, lighter or number (100,200.....upto 900).

Code:

```
<p style="font-weight:bold">This is Bold</p>
<p style="font-weight:bolder">This is Bolder</p>
<p style="font-weight:lighter">This is Lighter</p>
```

CSS Text and Font

```
<link rel="preconnect" href="https://fonts.googleapis.com">
<link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
<link href="https://fonts.googleapis.com/css2?family=Lobster&display=swap" rel="stylesheet">
<style>
    h1{
        color:green;
        font-variant:normal;
        text-align:center;
        font-family:verdana;           /* serif,sans-serif,cursive,monospace,fantasy */
        font-size:50px;
        font-style:italic;
        font-weight:bolder;
        text-transform: capitalize;    /* uppercase, lowercase, capitalize*/
    }
    p{
        text-align:right;    /* left, center, justify */
        color:red;
        font-variant:small-caps;
        font-family: 'Lobster', cursive;    /*Google fonts*/
        font-size: 25px;
        font-style:oblique; /*normal, oblique, italic*/
        font-weight:bold; /*bold ,bolder,lighter, 150*/
    }
    p a{text-decoration:none;} /* underline , overline , line-through , underline overline , underline overline red */
</style>
</head>
<body>

    <h1>welcome to codinghub </h1>
    <h1>Way to a better future</h1>
    <p>This is paragraph1</p>
    <p>This is paragraph2</p>
    <p><a href="https://www.truecaller.com" alt TrueCaller> Click here to open TrueCaller</a></p>
```

Welcome To Codinghub

Way To A Better Future

THIS IS PARAGRAPH1

THIS IS PARAGRAPH2

THIS IS PARAGRAPH3

CLICK HERE TO OPEN TRUECALLER

CSS Pseudo Classes

CSS Pseudo Classes

CSS Pseudo classes

A Pseudo class can be defined as a keyword which is combined to a selector that defines the special state of the selected elements. It is added to the selector for adding an effect to the existing elements based on their states

Syntax

A pseudo class starts with (:) let's see the syntax

Ex:

```
Selector:pseudo-class{
```

```
Property:value;
```

```
}
```

CSS Pseudo Classes

:active - It is used to add style to an active element

:hover – It adds special effects to an element when the user moves the mouse pointer over the element

:link – It adds style to the unvisited link

:visited – It adds style to a visited link

:first-child – It adds special effects to an element which is the first child of another element

CSS Pseudo Classes

```
a{
    text-decoration:none;
}
a:link {
    color: red;          /* unvisited link */
}
a:visited {
    color: green;        /* visited link */
}
a:hover {
    color: purple; /* mouse over link */
    font-size:20px;
}
a:active {
    color: blue;         /* selected link */
}
input:focus {
    background-color: pink;
}
img{
    opacity: 0.5;
}
img:hover{
    opacity:1;
}
p:first-child {
    color:red;
}

</style>
</head>
<body>

<p>hiii</p> <p>hiiii</p> <p>hiiii</p>
<a href="https://www.youtube.com">Youtube</a>
<a href="https://www.instagram.com">Instagram</a>
<a href="https://www.facebook.com">Facebook</a><br><br>
<form>
    First name: <input type="text" name="firstname" placeholder="abcd"><br><br>
    Last name: <input type="text" name="lastname">
</form><br><br>
</img>
</img>
```

hiii

hiiii

hiiii

Youtube Instagram Facebook

First name:

Last name:



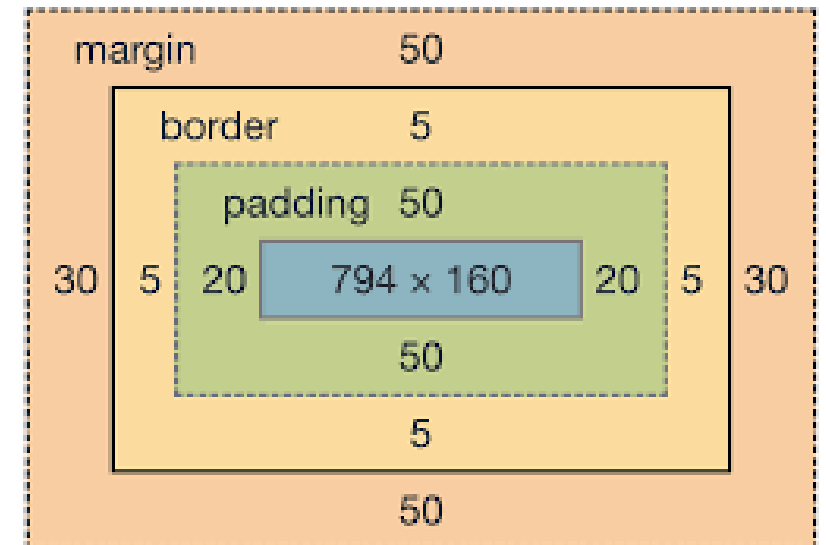
CSS Box Model

CSS Box Model

- Every element in CSS can be represented using BOX model
- It helps developer to develop and manipulate the elements
- It Consist of 4 edges
 - Content edge –It comprises of the actual content
 - Padding edge – It lies in between content and border edge
 - Border edge – Padding is followed by the border edge
 - Margin edge – It is outside border and controls the margin of the element

- Example

```
#demo{  
    border:2px solid blue;  
    margin:5px;  
    padding: 20px  
}
```



CSS Box Model

```
<style>
body
{
margin:0;
padding:0;
}
#demo{
background-color: red;
border: 15px solid black;
padding: 10px;
margin: 20px;
width:400px;
height:400px;
/*box-sizing:border-box;*/
}
#demo1{
background-color: yellow;
border: 15px solid black;
padding: 30px;
margin: 20px;
width:500px;
height:500px;
}
</style>
</head>
<body>
<div id="demo">
<h1>Box Model</h1>
<p>The CSS box model is essentially a box that wraps around every HTML element.
It consists of: borders, padding, margins, and the actual content.</p>
<p>This text is the content of the box. We have added a 50px padding,
20px margin and a 15px green border.</p>
</div>
<div id="demo1">
<h1>Box Model</h1>
<p>The CSS box model is essentially a box that wraps around every HTML element.
It consists of: borders, padding, margins, and the actual content.</p>
<p>This text is the content of the box. We have added a 50px padding,
20px margin and a 15px green border.</p>
</div>
```

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This text is the content of the box. We have added a 50px padding, 20px margin and a 15px green border.

Box Model

The CSS box model is essentially a box that wraps around every HTML element. It consists of: borders, padding, margins, and the actual content.

This text is the content of the box. We have added a 50px padding, 20px margin and a 15px green border.