

# CSS

CSS stands for "Cascading Style Sheet".

CSS is used to control the style of a web document in a simple and easy way.

## Why to Learn CSS?

CSS is a simple design language intended to simplify the process of making web pages presentable.

Key advantages of learning CSS:

- **Create Stunning Web sites**
- **Become a web designer**
- **Control web – powerful control over displaying tags**
- **Learn other languages – like javascript, php or Angular**

Simple CSS Program

```
<!DOCTYPE html>
<html>
  <head>
    <title>My first CSS Document</title>
    <style>
      h1 {
        color: #36CFFF;
      }
    </style>
  </head>
  <body>
    <h1>Hello IT Department!</h1>
  </body>
</html>
```

## Applications of CSS

- **CSS saves time**
- **Pages load faster – less code, faster the download speed**
- **Easy maintenance – Want to make any global change? Just change the style in CSS**
- **Superior styles to HTML**
- **Multiple Device Compatibility**
- **Global web standards**

Who Creates and Maintains CSS?

W3C – CSS Working group, they create specifications -> recommendation and independent companies creates them.

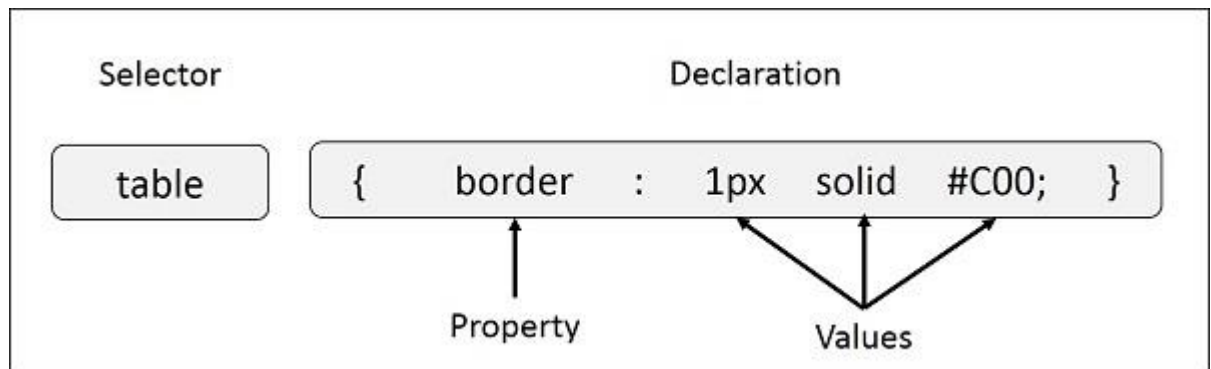
## CSS SYNTAX

A CSS comprises of style rules that are interpreted by the browser and then applied to the corresponding elements in your document. A style rule is made of three parts –

- **Selector** – A selector is an HTML tag at which a style will be applied. This could be any tag like <h1> or <table> etc.
- **Property** – A property is a type of attribute of HTML tag. Put simply, all the HTML attributes are converted into CSS properties. They could be *color*, *border* etc.
- **Value** – Values are assigned to properties. For example, *color* property can have value either *red* or *#F1F1F1* etc.

You can put CSS Style Rule Syntax as follows –

```
selector { property: value }
```



For example,

You can define a table border as follows –

```
table{ border :1px solid #C00; }
```

## The Type Selectors

### The Universal Selectors

Rather than selecting elements of a specific type, the universal selector quite simply matches the name of any element type –

```
* {  
  color: #000000;  
}
```

### The Descendant Selectors

Suppose you want to apply a style rule to a particular element only when it lies inside a particular element. As given in the following example, style rule will apply to `<em>` element only when it lies inside `<ul>` tag.

```
ul em {  
  color: #000000;  
}
```

## The Class Selectors

You can define style rules based on the class attribute of the elements. All the elements having that class will be formatted according to the defined rule.

```
.black {  
  color: #000000;  
}
```

This rule renders the content in black for every element with class attribute set to *black* in our document. You can make it a bit more particular. For example –

```
h1.black {  
  color: #000000;  
}
```

This rule renders the content in black for only `<h1>` elements with class attribute set to *black*.

You can apply more than one class selectors to given element. Consider the following example –

```
<p class = "center bold">  
  This para will be styled by the classes center and bold.  
</p>
```

## The ID Selectors

You can define style rules based on the *id* attribute of the elements. All the elements having that *id* will be formatted according to the defined rule.

```
#black {  
  color: #000000;  
}
```

This rule renders the content in black for every element with *id* attribute set to *black* in our document. You can make it a bit more particular. For example –

```
h1#black {  
  color: #000000;  
}
```

This rule renders the content in black for only `<h1>` elements with *id* attribute set to *black*.

The true power of *id* selectors is when they are used as the foundation for descendant selectors, For example –

```
#black h2 {  
  color: #000000;  
}
```

In this example all level 2 headings will be displayed in black color when those headings will lie with in tags having *id* attribute set to *black*.

## The Attribute Selectors

You can also apply styles to HTML elements with particular attributes. The style rule below will match all the input elements having a type attribute with a value of *text* –

```
input[type = "text"] {  
  color: #000000;  
}
```

The advantage to this method is that the `<input type = "submit" />` element is unaffected, and the color applied only to the desired text fields.

## Multiple Style Rules

```
h1 {  
  color: #36C;  
  font-weight: normal;  
  letter-spacing: .4em;  
  margin-bottom: 1em;  
  text-transform: lowercase;  
}
```

## Grouping Selectors

```
h1, h2, h3 {  
  color: #36C;  
  font-weight: normal;  
  letter-spacing: .4em;  
  margin-bottom: 1em;  
  text-transform: lowercase;  
}
```

You can combine the various *id* selectors together as shown below –

```
#content, #footer, #supplement {  
  position: absolute;  
  left: 510px;  
  width: 200px;  
}
```

## CSS COLORS

Color values to specify colors

Basically used for decorative effects

All possible formats include -

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 Colors - Hex Codes

Hexadecimal – 6 digit representation

Color	Color HEX
	#000000
	#FF0000
	#00FF00
	#0000FF
	#FFFF00
	#00FFFF
	#FF00FF
	#C0C0C0
	#FFFFFF

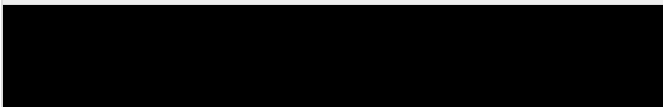

## CSS Colors - Short Hex Codes



Color	Color HEX
	#000
	#F00
	#0F0
	#00F
	#FF0
	#0FF
	#F0F
	#FFF

## CSS Colors - RGB Values

This color value is specified using the `rgb( )` property.

This property takes three values, one each for red, green, and blue. The value can be an integer between 0 and 255 or a percentage.

Color	Color RGB
	<code>rgb(0,0,0)</code>
	<code>rgb(255,0,0)</code>

	rgb(0,255,0)
	rgb(0,0,255)
	rgb(255,255,0)
	rgb(0,255,255)
	rgb(255,0,255)
	rgb(192,192,192)
	rgb(255,255,255)

## CSS BACKGROUND

- 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.

Set the Background Color

```
<html>
<head>
</head>

<body>
  <p style = "background-color:yellow;">
    This text has a yellow background color.
  </p>
</body>
</html>
```

**This text has a yellow background color.**

## Set the Background Image

```
<html>
<head>
<style>
  body {
    background-image: url("/css/images/css.jpg");
    background-color: #cccccc;
  }
</style>
</head>

<body>
  <h1>Hello World!</h1>
</body>
</html>
```

## Repeat the Background Image

```
<html>
<head>
<style>
  body {
    background-image: url("/css/images/css.jpg");
    background-repeat: repeat;
  }
</style>
</head>

<body>
  <p>SMVEC IT DEPT</p>
</body>
</html>
```

## Repeat background images vertically

```
<html>
<head>
<style>
  body {
    background-image: url("/css/images/css.jpg");
    background-repeat: repeat-y;
  }
</style>
</head>

<body>
  <p>SMVEC IT DEPT.</p>
</body>
</html>
```

## Repeat background images horizontally

```
<html>
```



```
<head>
  <style>
    body {
      background-image: url("/css/images/css.jpg");
      background-repeat: repeat-x;
    }
  </style>
</head>

<body>
  <p> SMVEC IT DEPT </p>
</body>
</html>
```

### Set the Background Image Position

```
<html>
<head>
  <style>
    body {
      background-image: url("/css/images/css.jpg");
      background-position: 100px;
    }
  </style>
</head>

<body>
  <p> SMVEC IT DEPT </p>
</body>
</html>

<html>
<head>
  <style>
    body {
      background-image: url("/css/images/css.jpg");
      background-position: 100px 200px;
    }
  </style>
</head>

<body>
  <p> SMVEC IT DEPT </p>
</body>
</html>
```

### Set the Background Attachment

```
<!DOCTYPE html>
<html>
  <head>
    <style>
      body {
        background-image: url("/css/images/css.jpg");
        background-repeat: no-repeat;
        background-attachment: fixed;
      }
    </style>
  </head>
  <body>
    <p> SMVEC IT DEPT </p>
  </body>
</html>
```

```

    }
  </style>
</head>

<body>
  <p>The background-image is fixed. Try to scroll down the page.</p>
  <p>The background-image is fixed. Try to scroll down the page.</p>
  <p>The background-image is fixed. Try to scroll down the page.</p>
  <p>The background-image is fixed. Try to scroll down the page.</p>
  <p>The background-image is fixed. Try to scroll down the page.</p>
  <p>The background-image is fixed. Try to scroll down the page.</p>
  <p>The background-image is fixed. Try to scroll down the page.</p>
  <p>The background-image is fixed. Try to scroll down the page.</p>
  <p>The background-image is fixed. Try to scroll down the page.</p>
</body>
</html>

```

To set scrolling image

```

<!DOCTYPE html>
<html>
  <head>
    <style>
      body {
        background-image: url('/css/images/css.jpg');
        background-repeat: no-repeat;
        background-attachment: fixed;
        background-attachment: scroll;
      }
    </style>
  </head>

  <body>
    <p>The background-image is fixed. Try to scroll down the page.</p>
    <p>The background-image is fixed. Try to scroll down the page.</p>
    <p>The background-image is fixed. Try to scroll down the page.</p>
    <p>The background-image is fixed. Try to scroll down the page.</p>
    <p>The background-image is fixed. Try to scroll down the page.</p>
    <p>The background-image is fixed. Try to scroll down the page.</p>
    <p>The background-image is fixed. Try to scroll down the page.</p>
    <p>The background-image is fixed. Try to scroll down the page.</p>
    <p>The background-image is fixed. Try to scroll down the page.</p>
  </body>
</html>

```

## CSS FONTS

Fonts & their properties can be defined

- 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

```
<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>
```

#### Set the Font Style

```
<html>
<head>
</head>

<body>
  <p style = "font-style:italic;">
    This text will be rendered in italic style
  </p>
</body>
</html>
```

#### Set the Font Variant

```
<html>
<head>
</head>

<body>
  <p style = "font-variant:small-caps;">
    This text will be rendered as small caps
  </p>
</body>
</html>
```

#### Set the Font Weight

```
<html>
<head>
</head>

<body>
  <p style = "font-weight:bold;">
    This font is bold.
  </p>
```

```
<p style = "font-weight:bolder;">
  This font is bolder.
</p>

<p style = "font-weight:500;">
  This font is 500 weight.
</p>
</body>
</html>
```

#### Set the Font Size

```
<html>
<head>
</head>

<body>
  <p style = "font-size:20px;">
    This font size is 20 pixels
  </p>

  <p style = "font-size:small;">
    This font size is small
  </p>

  <p style = "font-size:large;">
    This font size is large
  </p>
</body>
</html>
```

#### Set the Font Size Adjust

```
<html>
<head>
</head>

<body>
  <p style = "font-size-adjust:0.61;">
    This text is using a font-size-adjust value.
  </p>
</body>
</html>
```

#### Set the Font Stretch

```
<html>
<head>
</head>

<body>
  <p style = "font-stretch:ultra-expanded;">
    If this doesn't appear to work, it is likely that your computer
```

```
    doesn't have a <br>condensed or expanded version of the font being used.
  </p>
</body>
</html>
```

### Shorthand Property

```
<html>
<head>
</head>

<body>
  <p style = "font:italic small-caps bold 15px georgia;">
    Applying all the properties on the text at once.
  </p>
</body>
</html>
```

## CSS TEXT

Texts and their properties -

- The **color** property is used to set the color of a text.
- The **direction** property is used to set the text direction.
- The **letter-spacing** property is used to add or subtract space between the letters that make up a word.
- The **word-spacing** property is used to add or subtract space between the words of a sentence.
- The **text-indent** property is used to indent the text of a paragraph.
- The **text-align** property is used to align the text of a document.
- The **text-decoration** property is used to underline, overline, and strikethrough text.
- The **text-transform** property is used to capitalize text or convert text to uppercase or lowercase letters.
- The **white-space** property is used to control the flow and formatting of text.
- The **text-shadow** property is used to set the text shadow around a text.

### Set the Text Color

```
<html>
<head>
</head>

<body>
  <p style = "color:red;">
    This text will be written in red.
  </p>
</body>
</html>
```

### Set the Text Direction

```
<html>
<head>
</head>

<body>
  <p style = "color:red;">
    This text will be written in red.
  </p>
</body>
</html>
```

Set the Text Direction

```
<html>
<head>
</head>

<body>
  <p style = "direction:ltr;">
    This text will be rendered from left to right
  </p>
</body>
</html>
```

Set the Space between Characters

```
<html>
<head>
</head>

<body>
  <p style = "letter-spacing:5px;">
    This text is having space between letters.
  </p>
</body>
</html>
```

Set the Space between Words

```
<html>
<head>
</head>

<body>
  <p style = "word-spacing:5px;">
    This text is having space between words.
  </p>
</body>
</html>
```

Set the Text Indent

```
<html>
<head>
</head>

<body>
  <p style = "text-indent:1cm;">
    This text will have first line indented by 1cm and this line will remain at
    its actual position this is done by CSS text-indent property.
  </p>
</body>
</html>
```

### Set the Text Alignment

```
<html>
<head>
</head>

<body>
  <p style = "text-align:right;">
    This will be right aligned.
  </p>

  <p style = "text-align:center;">
    This will be center aligned.
  </p>

  <p style = "text-align:left;">
    This will be left aligned.
  </p>
</body>
</html>
```

### Decorating the Text

```
<html>
<head>
</head>

<body>
  <p style = "text-decoration:underline;">
    This will be underlined
  </p>

  <p style = "text-decoration:line-through;">
    This will be striked through.
  </p>

  <p style = "text-decoration:overline;">
    This will have a over line.
  </p>

  <p style = "text-decoration:blink;">
    This text will have blinking effect
  </p>
```

```
</body>
</html>
```

#### Set the Text Cases

```
<html>
<head>
</head>

<body>
  <p style = "text-transform:capitalize;">
    This will be capitalized
  </p>

  <p style = "text-transform:uppercase;">
    This will be in uppercase
  </p>

  <p style = "text-transform:lowercase;">
    This will be in lowercase
  </p>
</body>
</html>
```

#### Set the White Space between Text

```
<html>
<head>
</head>

<body>
  <p style = "white-space:pre;">
    This text has a line break and the white-space pre setting
    tells the browser to honor it just like the HTML pre tag.
  </p>
</body>
</html>
```

#### Set the Text Shadow

```
<html>
<head>
</head>

<body>
  <p style = "text-shadow:4px 4px 8px blue;">
    If your browser supports the CSS text-shadow property,
    this text will have a blue shadow.
  </p>
</body>
</html>
```

#### CSS LINKS



## Hyperlinks and their properties -

- The **:link** signifies unvisited hyperlinks.
- The **:visited** signifies visited hyperlinks.
- The **:hover** signifies an element that currently has the user's mouse pointer hovering over it.
- The **:active** signifies an element on which the user is currently clicking.

Example,

```
<style type = "text/css">
a:link {color: #000000}
a:visited {color: #006600}
a:hover {color: #FFCC00}
a:active {color: #FF00CC}
</style>
```

### Set the Color of Links

```
<html>
<head>
  <style type = "text/css">
    a:link {color:#000000}
  </style>
</head>

<body>
  <a href = "">Link</a>
</body>
</html>
```

### Set the Color of Visited Links

```
<html>
<head>
  <style type = "text/css">
    a:visited {color: #006600}
  </style>
</head>

<body>
  <a href = ""> link</a>
</body>
</html>
```

### Change the Color of Links when Mouse is Over

```
<html>
<head>
  <style type = "text/css">
    a:hover {color: #FFCC00}
  </style>
</head>
```

```
<body>
  <a href = "">Link</a>
</body>
</html>
```

Change the Color of Active Links

```
<html>
<head>
  <style type = "text/css">
    a:active {color: #FF00CC}
  </style>
</head>

<body>
  <a href = "">Link</a>
</body>
</html>
```

## CSS TABLES

- The **border-collapse** specifies whether the browser should control the appearance of the adjacent borders that touch each other or whether each cell should maintain its style.
- The **border-spacing** specifies the width that should appear between table cells.
- The **caption-side** captions are presented in the <caption> element. By default, these are rendered above the table in the document. You use the *caption-side* property to control the placement of the table caption.
- The **empty-cells** specifies whether the border should be shown if a cell is empty.
- The **table-layout** allows browsers to speed up layout of a table by using the first width properties it comes across for the rest of a column rather than having to load the whole table before rendering it.

The border-collapse Property

```
<html>
<head>
  <style type = "text/css">
    table.one {border-collapse:collapse;}
    table.two {border-collapse:separate;}

    td.a {
      border-style:dotted;
      border-width:3px;
      border-color:#000000;
      padding: 10px;
    }
    td.b {
      border-style:solid;
      border-width:3px;
      border-color:#333333;
      padding:10px;
    }
  </style>
</head>
<table border="1">
  <tr>
    <td class="a">td.a</td>
    <td class="b">td.b</td>
  </tr>
</table>
```

```

</style>
</head>

<body>
<table class = "one">
  <caption>Collapse Border Example</caption>
  <tr><td class = "a"> Cell A Collapse Example</td></tr>
  <tr><td class = "b"> Cell B Collapse Example</td></tr>
</table>
<br />

<table class = "two">
  <caption>Separate Border Example</caption>
  <tr><td class = "a"> Cell A Separate Example</td></tr>
  <tr><td class = "b"> Cell B Separate Example</td></tr>
</table>
</body>
</html>

```

### The border-spacing Property

The border-spacing property specifies the distance that separates adjacent cells' borders. It can take either one or two values; these should be units of length.

```

<style type="text/css">
/* If you provide one value */
table.example {border-spacing:10px;}
/* This is how you can provide two values */
table.example {border-spacing:10px; 15px;}
</style>

```

```

<html>
<head>
  <style type = "text/css">
    table.one {
      border-collapse:separate;
      width:400px;
      border-spacing:10px;
    }
    table.two {
      border-collapse:separate;
      width:400px;
      border-spacing:10px 50px;
    }
  </style>
</head>

<body>

  <table class = "one" border = "1">
    <caption>Separate Border Example with border-spacing</caption>
    <tr><td> Cell A Collapse Example</td></tr>
    <tr><td> Cell B Collapse Example</td></tr>
  </table>
  <br />

  <table class = "two" border = "1">

```

```
<caption>Separate Border Example with border-spacing</caption>
<tr><td> Cell A Separate Example</td></tr>
<tr><td> Cell B Separate Example</td></tr>
</table>

</body>
</html>
```

### The caption-side Property

The caption-side property allows you to specify where the content of a <caption> element should be placed in relationship to the table. The table that follows lists the possible values.

```
<html>
<head>
  <style type = "text/css">
    caption.top {caption-side:top}
    caption.bottom {caption-side:bottom}
    caption.left {caption-side:left}
    caption.right {caption-side:right}
  </style>
</head>

<body>

  <table style = "width:400px; border:1px solid black;">
    <caption class = "top">
      This caption will appear at the top
    </caption>
    <tr><td > Cell A</td></tr>
    <tr><td > Cell B</td></tr>
  </table>
  <br />

  <table style = "width:400px; border:1px solid black;">
    <caption class = "bottom">
      This caption will appear at the bottom
    </caption>
    <tr><td > Cell A</td></tr>
    <tr><td > Cell B</td></tr>
  </table>
  <br />

  <table style = "width:400px; border:1px solid black;">
    <caption class = "left">
      This caption will appear at the left
    </caption>
    <tr><td > Cell A</td></tr>
    <tr><td > Cell B</td></tr>
  </table>
  <br />

  <table style = "width:400px; border:1px solid black;">
    <caption class = "right">
      This caption will appear at the right
    </caption>
```

```
<tr><td> Cell A</td></tr>
<tr><td> Cell B</td></tr>
</table>

</body>
</html>
```

### The empty-cells Property

The empty-cells property indicates whether a cell without any content should have a border displayed.

This property can have one of the three values - *show*, *hide* or *inherit*.

```
<html>
<head>
  <style type = "text/css">
    table.empty {
      width:350px;
      border-collapse:separate;
      empty-cells:hide;
    }
    td.empty {
      padding:5px;
      border-style:solid;
      border-width:1px;
      border-color:#999999;
    }
  </style>
</head>

<body>

  <table class = "empty">
    <tr>
      <th></th>
      <th>Title one</th>
      <th>Title two</th>
    </tr>

    <tr>
      <th>Row Title</th>
      <td class = "empty">value</td>
      <td class = "empty">value</td>
    </tr>

    <tr>
      <th>Row Title</th>
      <td class = "empty">value</td>
      <td class = "empty"></td>
    </tr>
  </table>

</body>
</html>
```

### The table-layout Property

```

<html>
<head>
  <style type = "text/css">
    table.auto {
      table-layout: auto
    }
    table.fixed {
      table-layout: fixed
    }
  </style>
</head>

<body>

  <table class = "auto" border = "1" width = "100%">
    <tr>
      <td width = "20%">100000000000000000000000000000000</td>
      <td width = "40%">10000000</td>
      <td width = "40%">100</td>
    </tr>
  </table>
  <br />

  <table class = "fixed" border = "1" width = "100%">
    <tr>
      <td width = "20%">100000000000000000000000000000000</td>
      <td width = "40%">10000000</td>
      <td width = "40%">100</td>
    </tr>
  </table>

</body>
</html>

```

## CSS BORDERS

The *border* properties allow you to specify how the border of the box representing an element should look. There are three properties of a border you can change –

- The **border-color** specifies the color of a border.
- The **border-style** specifies whether a border should be solid, dashed line, double line, or one of the other possible values.
- The **border-width** specifies the width of a border

The border-color Property

- **border-bottom-color** changes the color of bottom border.
- **border-top-color** changes the color of top border.
- **border-left-color** changes the color of left border.

- **border-right-color** changes the color of right border.

```
<html>
<head>
  <style type = "text/css">
    p.example1 {
      border:1px solid;
      border-bottom-color:#009900; /* Green */
      border-top-color:#FF0000; /* Red */
      border-left-color:#330000; /* Black */
      border-right-color:#0000CC; /* Blue */
    }
    p.example2 {
      border:1px solid;
      border-color:#009900; /* Green */
    }
  </style>
</head>

<body>
  <p class = "example1">
    This example is showing all borders in different colors.
  </p>

  <p class = "example2">
    This example is showing all borders in green color only.
  </p>
</body>
</html>
```

### The border-style Property

- **none** – No border. (Equivalent of border-width:0;)
- **solid** – Border is a single solid line.
- **dotted** – Border is a series of dots.
- **dashed** – Border is a series of short lines.
- **double** – Border is two solid lines.
- **groove** – Border looks as though it is carved into the page.
- **ridge** – Border looks the opposite of groove.
- **inset** – Border makes the box look like it is embedded in the page.
- **outset** – Border makes the box look like it is coming out of the canvas.
- **hidden** – Same as none, except in terms of border-conflict resolution for table elements.

You can individually change the style of the bottom, left, top, and right borders of an element using the following properties –

- **border-bottom-style** changes the style of bottom border.
- **border-top-style** changes the style of top border.

- **border-left-style** changes the style of left border.
- **border-right-style** changes the style of right border.

```
<html>
<head>
</head>

<body>
  <p style = "border-width:4px; border-style:none;">
    This is a border with none width.
  </p>

  <p style = "border-width:4px; border-style:solid;">
    This is a solid border.
  </p>

  <p style = "border-width:4px; border-style:dashed;">
    This is a dashed border.
  </p>

  <p style = "border-width:4px; border-style:double;">
    This is a double border.
  </p>

  <p style = "border-width:4px; border-style:groove;">
    This is a groove border.
  </p>

  <p style = "border-width:4px; border-style:ridge">
    This is a ridge border.
  </p>

  <p style = "border-width:4px; border-style:inset;">
    This is a inset border.
  </p>

  <p style = "border-width:4px; border-style:outset;">
    This is a outset border.
  </p>

  <p style = "border-width:4px; border-style:hidden;">
    This is a hidden border.
  </p>

  <p style = "border-width:4px;
    border-top-style:solid;
    border-bottom-style:dashed;
    border-left-style:groove;
    border-right-style:double;">
    This is a a border with four different styles.
  </p>
</body>
</html>
```



## The border-width Property

The border-width property allows you to set the width of an element borders. The value of this property could be either a length in px, pt or cm or it should be set to *thin*, *medium* or *thick*.

You can individually change the width of the bottom, top, left, and right borders of an element using the following properties –

- **border-bottom-width** changes the width of bottom border.
- **border-top-width** changes the width of top border.
- **border-left-width** changes the width of left border.
- **border-right-width** changes the width of right border.

```
<html>
<head>
</head>

<body>
<p style = "border-width:4px; border-style:solid;">
  This is a solid border whose width is 4px.
</p>

<p style = "border-width:4pt; border-style:solid;">
  This is a solid border whose width is 4pt.
</p>

<p style = "border-width:thin; border-style:solid;">
  This is a solid border whose width is thin.
</p>

<p style = "border-width:medium; border-style:solid;">
  This is a solid border whose width is medium;
</p>

<p style = "border-width:thick; border-style:solid;">
  This is a solid border whose width is thick.
</p>

<p style = "border-bottom-width:4px;border-top-width:10px;
border-left-width: 2px;border-right-width:15px;border-style:solid;">
  This is a a border with four different width.
</p>
</body>
</html>
```

## Border Properties Using Shorthand

The border property allows you to specify color, style, and width of lines in one property –

```
<html>
<head>
</head>
```

```
<body>
  <p style = "border:4px solid red;">
    This example is showing shorthand property for border.
  </p>
</body>
</html>
```

## CSS MARGINS

The *margin* property defines the space around an HTML element. It is possible to use negative values to overlap content.

We have the following properties to set an element margin.

- The **margin** specifies a shorthand property for setting the margin properties in one declaration.
- The **margin-bottom** specifies the bottom margin of an element.
- The **margin-top** specifies the top margin of an element.
- The **margin-left** specifies the left margin of an element.
- The **margin-right** specifies the right margin of an element.

Example,

```
<html>
<head>
</head>

<body>
  <p style = "margin: 15px; border:1px solid black;">
    all four margins will be 15px
  </p>

  <p style = "margin:10px 2%; border:1px solid black;">
    top and bottom margin will be 10px, left and right margin will be 2%
    of the total width of the document.
  </p>

  <p style = "margin: 10px 2% -10px; border:1px solid black;">
    top margin will be 10px, left and right margin will be 2% of the
    total width of the document, bottom margin will be -10px
  </p>

  <p style = "margin: 10px 2% -10px auto; border:1px solid black;">
    top margin will be 10px, right margin will be 2% of the total
    width of the document, bottom margin will be -10px, left margin
    will be set by the browser
  </p>
</body>
</html>
```

The margin-bottom Property

```
<html>
<head>
</head>

<body>
  <p style = "margin-bottom: 15px; border:1px solid black;">
    This is a paragraph with a specified bottom margin
  </p>

  <p style = "margin-bottom: 5%; border:1px solid black;">
    This is another paragraph with a specified bottom margin in percent
  </p>
</body>
</html>
```

### The margin-top Property

```
<html>
<head>
</head>

<body>
  <p style = "margin-top: 15px; border:1px solid black;">
    This is a paragraph with a specified top margin
  </p>

  <p style = "margin-top: 5%; border:1px solid black;">
    This is another paragraph with a specified top margin in percent
  </p>
</body>
</html>
```

### The margin-left Property

```
<html>
<head>
</head>

<body>
  <p style = "margin-left: 15px; border:1px solid black;">
    This is a paragraph with a specified left margin
  </p>

  <p style = "margin-left: 5%; border:1px solid black;">
    This is another paragraph with a specified top margin in percent
  </p>
</body>
</html>
```

### The margin-right Property

```
<html>
<head>
</head>
```

```
<body>
  <p style = "margin-right: 15px; border:1px solid black;">
    This is a paragraph with a specified right margin
  </p>
  <p style = "margin-right: 5%; border:1px solid black;">
    This is another paragraph with a specified right margin in percent
  </p>
</body>
</html>
```

## CSS LISTS

Lists are very helpful in conveying a set of either numbered or bullet points

- The **list-style-type** allows you to control the shape or appearance of the marker.
- The **list-style-position** specifies whether a long point that wraps to a second line should align with the first line or start underneath the start of the marker.
- The **list-style-image** specifies an image for the marker rather than a bullet point or number.
- The **list-style** serves as shorthand for the preceding properties.
- The **marker-offset** specifies the distance between a marker and the text in the list.

The list-style-type Property

Style or shape of the bullet points

Sr.No.	Value & Description
1	<b>none</b> NA
2	<b>disc (default)</b> A filled-in circle
3	<b>circle</b> An empty circle
4	<b>square</b>

	A filled-in square
--	--------------------

Values that can be used for ordered list

Value	Description	Example
decimal	Number	1,2,3,4,5
decimal-leading-zero	0 before the number	01, 02, 03, 04, 05
lower-alpha	Lowercase alphanumeric characters	a, b, c, d, e
upper-alpha	Uppercase alphanumeric characters	A, B, C, D, E
lower-roman	Lowercase Roman numerals	i, ii, iii, iv, v
upper-roman	Uppercase Roman numerals	I, II, III, IV, V
lower-greek	The marker is lower-greek	alpha, beta, gamma
lower-latin	The marker is lower-latin	a, b, c, d, e
upper-latin	The marker is upper-latin	A, B, C, D, E
hebrew	The marker is traditional Hebrew numbering	
armenian	The marker is traditional Armenian numbering	
georgian	The marker is traditional Georgian numbering	

cjk-ideographic	The marker is plain ideographic numbers	
hiragana	The marker is hiragana	a, i, u, e, o, ka, ki
katakana	The marker is katakana	A, I, U, E, O, KA, KI
hiragana-iroha	The marker is hiragana-iroha	i, ro, ha, ni, ho, he, to
katakana-iroha	The marker is katakana-iroha	I, RO, HA, NI, HO, HE, TO

Example,

```
<html>
<head>
</head>

<body>
  <ul style = "list-style-type:circle;">
    <li>HTML</li>
    <li>CSS</li>
    <li>Javascript</li>
  </ul>

  <ul style = "list-style-type:square;">
    <li>HTML</li>
    <li>CSS</li>
    <li>Javascript</li>
  </ul>

  <ol style = "list-style-type:decimal;">
    <li>HTML</li>
    <li>CSS</li>
    <li>Javascript</li>
  </ol>

  <ol style = "list-style-type:lower-alpha;">
    <li>HTML</li>
    <li>CSS</li>
    <li>Javascript</li>
  </ol>

  <ol style = "list-style-type:lower-roman;">
    <li>HTML</li>
    <li>CSS</li>
```

```
</li>Javascript</li>
</ol>
</body>
</html>
```

### The list-style-image Property

The *list-style-image* allows you to specify an image so that you can use your own bullet style

```
<html>
<head>
</head>

<body>
<ul>
<li style = "list-style-image: url("PATH");"> HTML</li>
<li>CSS</li>
<li>Javascript</li>
</ul>

<ol>
<li style = "list-style-image: url("PATH");">HTML</li>
<li>CSS</li>
<li>Javascript</li>
</ol>
</body>
</html>
```

### The list-style Property

The *list-style* allows you to specify all the list properties into a single expression

```
<html>
<head>
</head>

<body>
<ul style = "list-style: inside square;">
<li>HTML</li>
<li>CSS</li>
<li>Javascript</li>
</ul>

<ol style = "list-style: outside upper-alpha;">
<li>HTML</li>
<li>CSS</li>
<li>Javascript</li>
</ol>
</body>
</html>
```

### The marker-offset Property

The *marker-offset* property allows you to specify the distance between the marker and the text relating to that marker

```
<html>
<head>
</head>

<body>
  <ul style = "list-style: inside square; marker-offset:2em;">
    <li>HTML</li>
    <li>CSS</li>
    <li>Javascript</li>
  </ul>

  <ol style = "list-style: outside upper-alpha; marker-offset:2cm;">
    <li>HTML</li>
    <li>CSS</li>
    <li>Javascript</li>
  </ol>
</body>
</html>
```

## CSS PADDING

The *padding* property allows you to specify how much space should appear between the content of an element and its border.

The value of this attribute should be either a length, a percentage, or the word *inherit*.

Some of the properties of padding are –

- The **padding-bottom** specifies the bottom padding of an element.
- The **padding-top** specifies the top padding of an element.
- The **padding-left** specifies the left padding of an element.
- The **padding-right** specifies the right padding of an element.
- The **padding** serves as shorthand for the preceding properties.

The padding-bottom Property

```
<html>
<head>
</head>

<body>
  <p style = "padding-bottom: 15px; border:1px solid black;">
    This is a paragraph with a specified bottom padding
```



```
</p>

<p style = "padding-bottom: 5%; border:1px solid black;">
  This is another paragraph with a specified bottom padding in percent
</p>
</body>
</html>
```

### The padding-top Property

```
<html>
<head>
</head>

<body>
  <p style = "padding-top: 15px; border:1px solid black;">
    This is a paragraph with a specified top padding
  </p>

  <p style = "padding-top: 5%; border:1px solid black;">
    This is another paragraph with a specified top padding in percent
  </p>
</body>
</html>
```

### The padding-left Property

```
<html>
<head>
</head>

<body>
  <p style = "padding-left: 15px; border:1px solid black;">
    This is a paragraph with a specified left padding
  </p>

  <p style = "padding-left: 15%; border:1px solid black;">
    This is another paragraph with a specified left padding in percent
  </p>
</body>
</html>
```

### The padding-right Property

```
<html>
<head>
</head>

<body>
  <p style = "padding-right: 15px; border:1px solid black;">
    This is a paragraph with a specified right padding
  </p>

  <p style = "padding-right: 5%; border:1px solid black;">
```

```
    This is another paragraph with a specified right padding in percent
  </p>
</body>
</html>
```

## The Padding Property

```
<html>
<head>
</head>

<body>
  <p style = "padding: 15px; border:1px solid black;">
    all four padding will be 15px
  </p>

  <p style = "padding:10px 2%; border:1px solid black;">
    top and bottom padding will be 10px, left and right
    padding will be 2% of the total width of the document.
  </p>

  <p style = "padding: 10px 2% 10px; border:1px solid black;">
    top padding will be 10px, left and right padding will
    be 2% of the total width of the document, bottom padding will be 10px
  </p>

  <p style = "padding: 10px 2% 10px 10px; border:1px solid black;">
    top padding will be 10px, right padding will be 2% of
    the total width of the document, bottom padding and top padding will be 10px
  </p>
</body>
</html>
```