

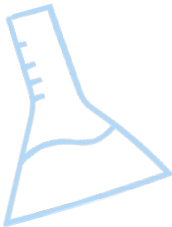
WEB BLITZ 3.0

DAY 2 – Introduction to CSS



GOOGLE DEVELOPER STUDENT CLUBS

NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR





Google Developer Student Clubs
National Institute of Technology, Silchar



HTML REVISITED



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What is CSS?

- CSS stands for Cascading Style Sheets
- Used to control style of the webpage
- Provides powerful control over the presentation of an HTML element





WHY CSS ?

- Go to Console (Ctrl + Shift + J)
- Type the following and know it yourself – “WHY CSS?”



```
“ document.head.parentNode.removeChild(document.head); ”
```



HOW TO LINK CSS?

There are three ways to add CSS to HTML:-

1. Inline CSS: This method involves adding CSS styles directly to an HTML element using the "style" attribute. For example:

```
<p style="color:olive;font-size:24px;">HTML Styles with CSS</p>
```



HOW TO LINK CSS?

2. Internal CSS: This method involves adding CSS styles to the head section of an HTML document using the "style" tag.

```
<!-- 2. Internal CSS -->
<style>
  .para2 {
    color: ■ rgb(0, 4, 81);
    font-size: 20px;
    text-align: center;
  }
</style>
```



HOW TO LINK CSS?

3. External CSS: This method involves creating a separate CSS file and linking it to the HTML document using the "link" tag.

```
<!-- 1. External CSS -->  
<link rel="stylesheet" href="style.css">
```

CSS SYNTAX

- The CSS syntax consists of a set of rules : a selector, a property, and a value.

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

- The selector represents the HTML element that you want to style. For example:

```
h1 { color: blue }
```

This code tells the browser to render all occurrences of the HTML `<h1>` element in blue.

CSS SYNTAX

How to add multiple properties?

```
h1 {  
  color: blue;  
  font-family: arial, helvetica, "sans serif";  
  font-size: 150%;  
}
```

How to select multiple selectors?

```
h1, h2, h3, h4, h5, h6 { color: blue }
```



I need some styles to be applied multiple times on the same page. What should i do now?

For example, you might have many `<h1>` elements (but not all) that need the same style applied.





CLASSES AND IDs

CSS classes are used when your style needs to be applied multiple times on the same page. While the id selector uses the id attribute of an HTML element to select a specific element.

```
<body>
  <h1 class="select-me">I want to select this element</h1>
  <h1 class="select-me">I want to select this element toooo</h1>
  <h1>I do not want to select this element</h1>
  <h1 id="unique-element">I want myself to be colored pink</h1>
</body>
```



CLASS & ID SELECTORS

We declare a CSS class by using a dot (.) followed by the class name. While the syntax for declaring a CSS ID is the same as for classes, except that instead of using a dot, you use a hash (#).

```
<style>
  .select-me{
    color:  blue;
  }
  #unique-element{
    color:  pink;
  }
</style>
```

ID v/s CLASS selector

ID selector

- ID is unique in a page and can only apply to at most one element.
- Only one ID attribute can be attached to an element

Class selector

- The class can be applied to multiple times on a single page.
- Multiple class attributes can be attached to an element

CSS SELECTORS

CSS (Cascading Style Sheets) selectors are used to target specific HTML elements to apply styles such as color, font, and layout. There are several types of selectors in CSS, including:

1. Type/Element selectors: target all elements of a certain type

Example:

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

2. Pseudo-element selectors: used to style elements

Example:

```
p::first-line {  
  color: red;  
}
```

3. Class selectors: target elements with a specific class attribute.

Example:

```
.important {  
  font-weight: bold;  
}
```

4. Pseudo-class selectors: used to style states of elements

Example:

```
a:hover {  
  color: green;  
  text-decoration: none;  
}
```

5. ID selectors: target a single element with a specific ID attribute.

Example:

```
#main {  
  font-size: 25px;  
}
```

6. Attribute selectors: target elements with a specific attribute value.

Example:

```
input[type="text"] {  
  background-color: #eee;  
}
```

7. Child combinators: targets the child of a direct parent element

Example:

```
ul>li {  
  color: green;  
}
```

8. Descendant combinators: targets all the descendants of a parent

Example:

```
ul li {  
  color: green;  
}
```


9. Combined selectors: used to target more than one element at a time.

Example:

```
p,h2 {  
    font-weight: bold;  
}
```

10. Universal selectors: It is used to select all items in an HTML file

Example:

```
* {  
    text-align: center;  
    font-family: "Lato", sans-serif;  
}
```

Specificity Hierarchy

Every CSS selector has its place in the specificity hierarchy.

There are four categories that define the specificity level of a selector:

1. **Inline styles** - Example: `<h1 style=" color: pink;">`
2. **IDs** - Example: `#navbar`
3. **Classes, Pseudo-classes, attribute selectors** –
Example: `.test`, `: hover`, `[href]`
4. **Elements and pseudo-elements** - Example: `h1`, `::before`

Basic CSS styling

□ Setting font styles: You can change the font type, size, color, and style of text using the font-family, font-size, color, and font-style properties in CSS. For example:

```
body {  
  font-family: Arial, sans-serif;  
  font-size: 16px;  
  font-weight: bolder;  
  color: □#333;  
  font-style: italic;  
}
```



□ Changing background colors: You can change the background color of HTML elements using the background-color property in CSS. For example:

```
div {  
  background-color:  rgb(200,65,100);  
}
```

□ Adding borders: You can add borders to HTML elements using the border property in CSS.

For example:

```
img {  
  border: 2px solid □ black;  
}
```

□ Adjusting spacing: You can adjust the space around HTML elements using the padding and margin properties in CSS.

For example:

```
p {  
  padding: 10px;  
  margin: 20px;  
}
```

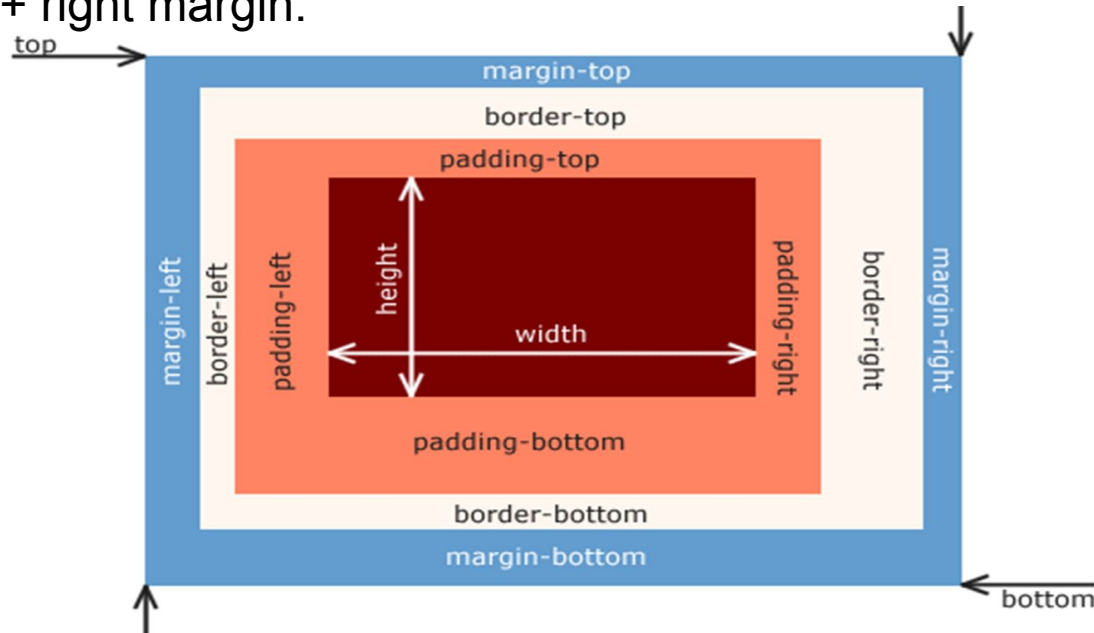
The Box Model

The CSS box model is a fundamental concept in web design that defines the structure and layout of HTML elements on a webpage.

- **Content:** This is the actual content of the HTML element, such as text, images, or other media.
- **Padding:** This is the space between the content and the border of the element. Padding can be specified using the padding property in CSS.
- **Border:** This is a line that surrounds the content and padding of the element. Borders can be styled using the border property in CSS.
- **Margin:** This is the space outside the border of the element. Margins can be specified using the margin property in CSS

Total height = height + top padding + bottom padding + top border + bottom border + top margin + bottom margin.

Total width = width + left padding + right padding + left border + right border + left margin + right margin.



By default, the width and height of an element is calculated like this:

$\text{width/height} + \text{padding} + \text{border} = \text{actual width/height of an element}$

The `box-sizing` property allows us to include the padding and border in an element's total width and height. If we set `box-sizing: border-box;` on an element, padding and border are included in the width and height:

Example:

```
p {  
  border: 2px solid ■ aquamarine;  
  padding: 10px 20px;  
  margin: 7px;  
  box-sizing: border-box;  
}
```


CSS UNITS

There are two types of length units: absolute and relative.

Absolute Lengths:- The absolute length units are fixed and a length expressed in any of these will appear as exactly that size

Relative Lengths:- Relative length units specify a length relative to another length property. Relative length units scale better between different rendering mediums.

Absolute Length Units

Unit	Description
cm	centimeters
mm	millimeters
in	inches (1in = 96px = 2.54cm)
px	pixels (1px = 1/96th of 1in)
pt	points (1pt = 1/72 of 1in)
pc	picas (1pc = 12 pt)

Relative Length Units

Unit	Description
em	Relative to the font-size of the element
rem	Relative to font-size of the root element
vw	Relative to 1% of the width of the viewport*
vh	Relative to 1% of the height of the viewport*
vmin	Relative to 1% of viewport's* smaller dimension
vmax	Relative to 1% of viewport's* larger dimension
%	Relative to the parent element



TASK 01

Make a fresh static webpage using the following properties:-

1. font-size
2. font-weight
3. color
4. background-color or background-image
5. border, padding, margin
6. text-align

Note:- You can use class, id, element selector or any other selector discussed today to apply these properties

INSTRUCTORS FOR **WEB BLITZ 3.0**



Jugya Kamal Gogoi



Partha Pratim Deka



Vivek Kumar



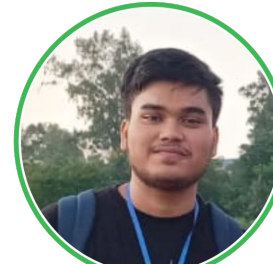
Adhiraj Dutta



Hrishita Paul



Bijay Jiwrajka



Jaydeep Prapanch Das



Anubhav Chakraborty



Thanks for Joining