



DEPARTMENT OF
COMPUTER SCIENCE AND ENGINEERING

Title: Introduction to CSS

WEB PROGRAMMING LAB
CSE 302



GREEN UNIVERSITY OF BANGLADESH

1 Objective(s)

- To be familiar with CSS.
- Using CSS to design webpages.

2 What And Why CSS

CSS is a web scripting language used for designing web pages. It is used to define the style of web pages, including design, layout, and display variations for different devices and screen sizes. CSS rule consist of a selector and a declaration block.

```
1 Examples :
2 body {
3     background-color: lightblue;
4 }
5
6 h1 {
7     color: white;
8     text-align: center;
9 }
10
11 p {
12     font-family: verdana;
13     font-size: 20px;
14 }
```

3 CSS Selectors

CSS selectors select the HTML element to style. CSS selectors are used to "find" (or select) an HTML element to style. There are five types of selectors available in CSS. They are :

- Simple selectors (select elements based on name, id, class)
- Combinator selectors (select elements based on a specific relationship between them)
- Pseudo-class selectors (select elements based on a certain state)
- Pseudo-elements selectors (select and style a part of an element)
- Attribute selectors (select elements based on an attribute or attribute value)

3.1 The CSS element Selector

The element selector selects HTML elements based on the element name.

```
1 Examples :
2 <!DOCTYPE html>
3 <html>
4 <head>
5 <style>
6 p {
7     text-align: center;
8     color: red;
9 }
10 </style>
11 </head>
12 <body>
13
14 <p>Every paragraph will be affected by the style.</p>
```

```
15 <p id="para1">Me too!</p>
16 <p>And me!</p>
17
18 </body>
19 </html>
```

3.2 The CSS id Selector

The id selector selects an element based on its id attribute in HTML.

```
1 Examples : The CSS rule below will be applied to the HTML element with id="para1"
2 #para1 {
3     text-align: center;
4     color: red;
5 }
```

3.3 The CSS class Selector

HTML components having a specific class attribute are chosen using the class selector. Put a period (.) character after the class name to select elements that belong to that class.

```
1 Examples : In this example all HTML elements with class="center" will be red and
2             center-aligned
3 .center {
4     text-align: center;
5     color: red;
6 }
```

4 CSS Attributes

4.1 CSS color

Predefined color names or RGB, HEX, HSL, RGBA, HSLA values are used to specify CSS colors. It is used to add any color to the element of the web pages.

```
1 Examples :
2 <h1 style="background-color:Tomato;">Tomato</h1>
3 <h1 style="background-color:DodgerBlue;">Hello World</h1>
```

4.1.1 CSS Text Color

You can set the color of text:

```
1 Example:
2 <h1 style="color:Tomato;">Hello World</h1>
3 <p style="color:DodgerBlue;">Lorem ipsum...</p>
4 <p style="color:MediumSeaGreen;">Ut wisi enim...</p>
```

4.1.2 CSS Border Color

You can set the color of borders:

```
1 Example:
2 <h1 style="border:2px solid Tomato;">Hello World</h1>
3 <h1 style="border:2px solid DodgerBlue;">Hello World</h1>
4 <h1 style="border:2px solid Violet;">Hello World</h1>
```

4.2 CSS Backgrounds

Background effects for elements are added using CSS background properties.

```
1 Examples :
2 body {
3     background-image: url("img_tree.png");
4     background-repeat: no-repeat;
5     background-position: right top;
6     background-attachment: scroll;
7 }
```

4.2.1 CSS background-color

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

```
1 Example:
2 body {
3     background-color: lightblue;
4 }
```

4.2.2 CSS background-image

The background-image property specifies an image to use as the background of an element. By default, the image is repeated so it covers the entire element.

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <style>
5 body {
6     background-image: url("paper.gif");
7 }
8 </style>
9 </head>
10 <body>
11
12 <h1>Hello World!</h1>
13
14 <p>This page has an image as the background!</p>
15
16 </body>
17 </html>
```

```
1 The background image can also be set for specific elements, like the <p> element
2 :
3 <!DOCTYPE html>
4 <html>
5 <head>
6 <style>
7 p {
8     background-image: url("paper.gif");
9 }
10 </style>
11 </head>
12 <body>
13
14 <h1>Hello World!</h1>
```

```
15  
16 <p>This paragraph has an image as the background!</p>  
17  
18 </body>  
19 </html>
```

4.3 CSS Borders

Used to add border around any element in the html pages

```
1 Example:  
2 p.solid {border-style: solid;}  
3 p.dashed {border-style: dashed;}  
4 p {  
5     border: 2px solid red;  
6     border-radius: 5px;  
7 }  
8 p.solid {border-style: solid;}  
9 p.dashed {border-style: dashed;}  
10 p {  
11     border: 2px solid red;  
12     border-radius: 5px;  
13 }
```

4.3.1 CSS Border Width

The width of the four borders is specified by the border-width attribute. The width can be specified as a specific size (in px, pt, cm, em, and so on) or as one of three pre-defined values: thin, medium, or thick:

```
1 Example  
2 Demonstration of the different border widths:  
3  
4 p.one {  
5     border-style: solid;  
6     border-width: 5px;  
7 }  
8  
9 p.two {  
10     border-style: solid;  
11     border-width: medium;  
12 }  
13  
14 p.three {  
15     border-style: dotted;  
16     border-width: 2px;  
17 }  
18  
19 p.four {  
20     border-style: dotted;  
21     border-width: thick;  
22 }
```

4.4 CSS Margin And Padding

Margins are used to create space around elements, outside of any defined borders. Padding is used to create space around an element's content, inside of any defined borders.

```
1 Examples :
2 p {
3     margin-top: 100px;
4     margin-bottom: 100px;
5     margin-right: 150px;
6     margin-left: 80px;
7 }
8 div {
9     padding-top: 50px;
10    padding-right: 30px;
11    padding-bottom: 50px;
12    padding-left: 80px;
13 }
```

4.5 CSS height And Width

The CSS height and width properties are used to set the height and width of an element

```
1 Examples :
2 div {
3     height: 200px;
4     width: 50%;
5     background-color: powderblue;
6 }
```

4.6 CSS Font

Choosing the proper font has a significant impact on how readers interact with a website. The appropriate font can help your brand establish a strong identity. CSS font is Used to show the content of the page in a specific format. In CSS there are five generic font families:

- Serif fonts have a small stroke at the edges of each letter. They create a sense of formality and elegance.
- Sans-serif fonts have clean lines (no small strokes attached). They create a modern and minimalistic look.
- Monospace fonts - here all the letters have the same fixed width. They create a mechanical look.
- Cursive fonts imitate human handwriting.
- Fantasy fonts are decorative/playful fonts.

```
1 Examples :
2 body {
3     background-color: black;
4     font-family: Verdana, sans-serif;
5     font-size: 16px;
6     color: gray;
7 }
```

```
1 Examples:
2 Specify some different fonts for three paragraphs:
3
4 .p1 {
5     font-family: "Times New Roman", Times, serif;
6 }
7
8 .p2 {
9     font-family: Arial, Helvetica, sans-serif;
```

```
10 }
11
12 .p3 {
13     font-family: "Lucida Console", "Courier New", monospace;
14 }
```

4.7 CSS Tables

It is used to style the HTML tables.

```
1 Examples :
2 table, th, td {
3     border: 1px solid;
4 }
5 table {
6     width: 100%;
7 }
8
9 th {
10     height: 70px;
11 }
12 th, td {
13     padding: 15px;
14     text-align: left;s
15 }
```

5 CSS Layout - The position Property

The position property of an element describes the type of positioning mechanism utilized (static, relative, fixed, absolute or sticky).

5.1 Position: static

By default, HTML elements are static in position. The top, bottom, left, and right attributes have no effect on static-positioned elements.

A static element is not positioned in any specific way; it is always positioned in accordance with the natural flow of the page:

```
1 Examples:
2 <!DOCTYPE html>
3 <html>
4 <head>
5 <style>
6 div.static {
7     position: static;
8     border: 3px solid #73AD21;
9 }
10 </style>
11 </head>
12 <body>
13
14 <h2>position: static;</h2>
15
16 <p>An element with position: static; is not positioned in any special way; it is
17     always positioned according to the normal flow of the page:</p>
18 <div class="static">
```

```
19 This div element has position: static;
20 </div>
21
22 </body>
23 </html>
```

5.2 Position:relative

An element with position: relative; is positioned relative to its normal position.

```
1 Examples:
2 <!DOCTYPE html>
3 <html>
4 <head>
5 <style>
6 div.relative {
7     position: relative;
8     left: 30px;
9     border: 3px solid #73AD21;
10 }
11 </style>
12 </head>
13 <body>
14
15 <h2>position: relative;</h2>
16
17 <p>An element with position: relative; is positioned relative to its normal
18     position:</p>
19
20 <div class="relative">
21 This div element has position: relative;
22 </div>
23
24 </body>
25 </html>
```

6 CSS Animations

CSS allows HTML elements to be animated without the use of JavaScript or Flash!

```
1 Examples :
2 <!DOCTYPE html>
3 <html>
4 <head>
5 <style>
6 div {
7     width: 100px;
8     height: 100px;
9     background-color: red;
10    animation-name: example;
11    animation-duration: 4s;
12 }
13
14 @keyframes example {
15     from {background-color: red;}
16     to {background-color: yellow;}
17 }
```



```
18 </style>
19 </head>
20 <body>
21
22 <h1>CSS Animation</h1>
23
24 <div></div>
25
26 <p><b>Note:</b> When an animation is finished, it goes back to its original
    style.</p>
27
28 </body>
29 </html>
```

7 CSS Tooltip

A tooltip is often used to specify extra information about something when the user moves the mouse pointer over an element:

```
1 Examples:
2 <!DOCTYPE html>
3 <html>
4 <style>
5 .tooltip {
6     position: relative;
7     display: inline-block;
8     border-bottom: 1px dotted black;
9 }
10
11 .tooltip .tooltiptext {
12     visibility: hidden;
13     width: 120px;
14     background-color: black;
15     color: #fff;
16     text-align: center;
17     border-radius: 6px;
18     padding: 5px 0;
19
20     /* Position the tooltip */
21     position: absolute;
22     z-index: 1;
23 }
24
25 .tooltip:hover .tooltiptext {
26     visibility: visible;
27 }
28 </style>
29 <body style="text-align:center;">
30
31 <h2>Basic Tooltip</h2>
32
33 <p>Move the mouse over the text below:</p>
34
35 <div class="tooltip">Hover over me
36     <span class="tooltiptext">Tooltip text</span>
37 </div>
38
```

```
39 <p>Note that the position of the tooltip text isn't very good. Go back to the
    tutorial and continue reading on how to position the tooltip in a desirable
    way.</p>
40
41 </body>
42 </html>
```

8 Discussion & Conclusion

Based on the focused objective(s) to understand HTML and CSS, the additional lab exercise made me more confident towards the fulfilment of the objectives(s).

9 Lab Task(Please implement yourself and show the output to the instructor)

- Implement HTML and CSS responsive tables that will have the colspan attribute.
- Implement interactive form using HTML and CSS

10 Lab Exercise (Submit as a report)

Design a form for following cases:

- Five fields where three are text input fields, one is radio button, and one is select box
- Among three input field two will be mandatory and another will be hidden

11 Policy

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