CS 283
Lecture 03: *Cascading Style Sheets*

(Fall 2022/2023)

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What is CSS?

Stands for **C**ascading **S**tyle **S**heets

Primarily used for styling the display of the HTML elements.

Considering the variations in display of devices and screen sizes.

Saves considerable time and efforts by defining the styling of multiple pages only once.

It also allows creating one HTML page with multiple styles!

Why is CSS needed ?

The HTML was basically created to determine the content of web pages rather than their styles!

When the styling tags were introduced in **HTML 3.2**, the developers suffered a lot applying them in every HTML element.

To resolve this, CSS were primarily introduced by the World Wide Web Consortium (W3C).

CSS Basic Syntax

Selector	{	Property	:	Value	}

```css
h1 {
    color: Blue;
    text-align: center;
}
```

CSS Selectors

- Simple selectors → select elements based on id, Class or name.
- Combinator selectors → select HTML elements based on the relevance between them
- Pseudo-class selectors → select HTML elements based on a specific state.
- Pseudo-elements selectors → select and style a specific part of an HTML element.
- Attribute selectors → select elements based on an attribute or attribute value

Simple Element Selectors

- Element Selector based on element <mark>Name</mark>

```
h1 {
   color: Blue;
   text-align: center;
}
```

```
<h1> some content</h1>
```

- Element Selector based on element <mark>ID</mark>

```
#para1 {
   color: Blue;
   text-align: center;
}
```

```
<h1 id="para1"> some content</h1>
```

Simple Element Selectors (cont.)

- Element Selector based on element class

```
.center {
  color: Blue;
  text-align: center;
}
```

```
<h1 class="center">
some content</h1>
```

- Element Selector of HTML elements with specific class

```
h1.center{
  color: Blue;
  text-align: center;
}
```

```
<h1 class="center">
some content</h1>

<h1> some content</h1>
```

Simple Element Selectors (Cont.)

- HTML elements can refer to more than one class.

```css
h1.center {
  text-align: center;
  color: blue;
}

h1.large {
  font-size: 400%;
}
```

```html
<h1 class="center large">some heading content.</h1>
```

Grouping Selector

- Group the selectors with the same style definitions.

```
h1 {
   text-align: center;
   color: blue;
}
h2 {
   text-align: center;
   color: blue;
}
```

```
h1, h2 {
   text-align: center;
   color: blue;
}
```

Universal Selector

- Applies to the entire elements of the HTML page

```
*  {
     text-align: center;
     color: blue;
}
```

Applying CSS in HTML

Applying CSS in HTML

External CSS

Internal CSS

Inline CSS

External CSS

```css
body {
  background-color: yellow;
}

h1 {
  color: green;
  margin-right: 60px;
}
```

```html
<!DOCTYPE html>
<html>
<head>
<link rel="stylesheet" href="mystyle.css">
</head>
<body>

<h1>some heading content</h1>
<h2>some heading 2 content</h2>


</body>
</html>
```

Internal CSS

- Defined as a <style> element within the <head> section.
- Can be applied in case a single HTML page has a unique style.

```
<head>
<style>
body {
  background-color: yellow;
}

h1 {
  color: green;
  margin-right: 60px;
}
</style>
</head>
```

Inline CSS

- Defined inside the "style" attribute.
- Not the best practice.

```
<body>

<p style="color:maroon;text-align:right;">paragraph content</p>

</body>
```

Cascading Order

Inline style → Highest priority

External and internal style sheets

Browser default

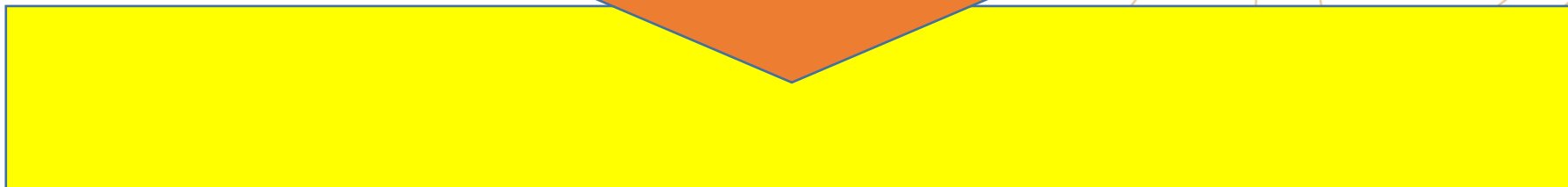# Defining multiple styles for the same selector

- If an external CSS and an Internal CSS were defined for the same element, the most recently-mentioned style is applied.

```
body {
    background-color: Orange;
}
```
External CSS

```
<head>
<link rel="stylesheet" type="text/css"
href="mystyle.css">
<style>
body {
    background-color: yellow;
} </style>
</head>
```
Internal CSS

CSS comments /*...*/

- CSS (like HTML) is usually not commented as rigorously as programming languages such as Java

- The // single-line comment style is NOT supported in CSS

- The <!-- ... --> HTML comment style is also NOT supported in CSS

```
/* This is a comment.
It can span many lines in the CSS file. */
p {
color: red; background-color: aqua;
}
                        CSS
```

Specifying colors

```css
p { color: red; }
h2 { color: rgb(128, 0, 196); }
h4 { color: #FF8800; }
```
CSS

This paragraph uses the first style above

This h2 uses the second style above.

This h4 uses the third style above.

output

- color names: aqua, black, blue, fuchsia, gray, green, lime, maroon, navy, olive, purple, red, silver, teal, white (white), yellow
- RGB codes: red, green, and blue values from 0 (none) to 255 (full)
- hex codes: RGB values in base-16 from 00 (0, none) to FF (255, full)

Specifying colors

color names: aqua, black, blue, fuchsia, gray, green, lime, maroon, navy, olive, ...

RGB codes: red, green, and blue values from 0 (none) to 255 (full)

hex codes: RGB values in base-16 from 00 (0, none) to FF (255, full)

```css
p { color: red; }
h2 { color: rgb(128, 0, 196); }
h4 { color: #FF8800; }
```
CSS

This paragraph uses the first style above

This h2 uses the second style above.

This h4 uses the third style above.

output

Backgrounds in CSS

- background-color
- background-image
- background-repeat
- background-attachment
- background-position
- background (shorthand property)

```
div {
background-color: yellow;
}

body {
background-image: url("simpleImage.jpg");
}
```

Background Repeat

- The background-image property by default repeats the background image image both horizontally and vertically.

```
• body {
  background-
image: url("cloudImg.png");
  background-repeat: repeat-y;
}


• body {
background-image: url("Logo.png");
background-repeat: no-repeat;
}

• body {
background-image: url("logo.png");
background-repeat: no-repeat;
background-position: Left top;
}
```

Background Attachment

- Determines whether a background image shall be scrolled with the page.

```
body {
  background-image: url("logo.png");
  background-repeat: no-repeat;
  background-position: Left top;

background-attachment: fixed;
}

body {
  background-image: url("logo.png");
  background-repeat: no-repeat;
  background-position: Left top;

background-attachment: Scroll;
}
```
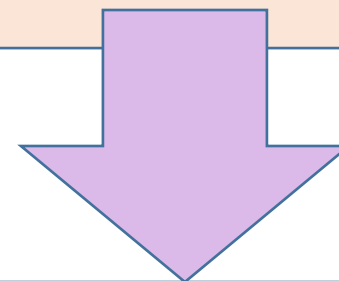
Background Shorthand

```css
body {
    background-color: #FF8800;
    background-
image: url("logo.png");
    background-repeat: repeat-y;
    background-position: right left;
}
```

```css
body {

background: #FF8800 url("logo.png") repeat-y
right left;
    }
```

CSS Borders

Different borders with different classes example!

https://www.w3schools.com/css/tryit.asp?filename=trycss_border-color1

CSS Borders

```
Styling each border separately !

p {
  border-top-style: solid;
  border-right-style: dotted;
  border-bottom-style: solid;
  border-left-style: dotted;
}
```

CSS Margins

- Defines the space around any defined borders of an element.

property	description
margin	margin on all 4 sides
margin-bottom	margin on bottom side only
margin-left	margin on left side only
margin-right	margin on right side only
margin-top	margin on top side only

Complete list of margin properties
http://www.w3schools.com/css/css_reference.asp#margin

CSS Margins

- Defines the space around any defined borders of an element.

```css
div {
    margin-top: 90px;
    margin-bottom: 150px;
    margin-right: 100px;
    margin-left: 100px;
}
```

CSS Padding

- Defines the space around the <mark>content within</mark> an element.

```css
div {
    padding-top: 40px;
    padding-right: 70px;
    padding-bottom: 70px;
    padding-left: 40px;
}

OR

div {
    padding: 25px 50px 75px 100px;
}
```

CSS Padding

- Defines the space around the <mark>content within</mark> an element.

property	description
padding	padding on all 4 sides
padding-bottom	padding on bottom side only
padding-left	padding on left side only
padding-right	padding on right side only
padding-top	padding on top side only
Complete list of padding properties http://www.w3schools.com/css/css_reference.asp#padding	

CSS Icons

```html
<!DOCTYPE html>
<html>
<head>

<link rel="stylesheet" href="https://fonts.googleapis.com/icon?family=Material+Icons">

</head>
<body>

<h1>Google icon library</h1>

<p>Some Google icons:</p>

<i class="material-icons">traffic</i>

<i class="material-icons">computer</i>

<i class="material-icons">cloud</i>

<i class="material-icons">attachment</i>

<i class="material-icons">favorite</i>

</body>
</html>
```

Google icon library

Some Google icons:

CSS Text

- Determined by the "color" property.

```css
body {
  color: orange;
  letter-spacing: 5px;
}

div {
background-color: black;
 color: white;
 text-align: left;
 text-transform: uppercase;
 text-indent: 50px;
}

h1{text-shadow: 2px 2px;}
```

Generic family	Font family	Description
Serif	Times New Roman Georgia	Serif fonts have small lines at the ends on some characters
Sans-serif	Arial Verdana	"Sans" means without - these fonts do not have the lines at the ends of characters
Monospace	Courier New Lucida Console	All monospace characters have the same width

Font Family

CSS Fonts

- Fallback Fonts The best practice is to have several font names ordered by the priority for your design. And end with a generic family.
- Web safe fonts are fonts that are globally installed across all devices.
- Font style: bold,italic..

```css
.p1 {
  font-family: Arial, Helvetica, sans-serif;
}

.p2 {
  font-family: "Lucida Console", "Courier New", monospace;
  font-size: 40px;
}

.p3 {
  font-family: "Times New Roman", Times, serif;
  font-style: italic;
}
```
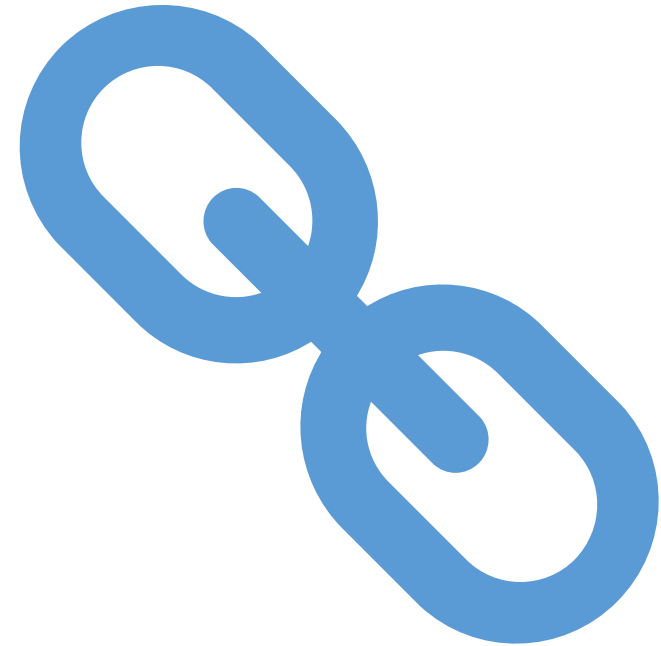
Using Google Fonts!

- <head>
<link rel="stylesheet" href="https://fonts.googleapis.com/css?family=Sofia">
<style>
body {
  font-family: "Sofia", sans-serif;
}
</style>
</head>

sample of Sofia Font

font of a paragraph element.

CSS Links

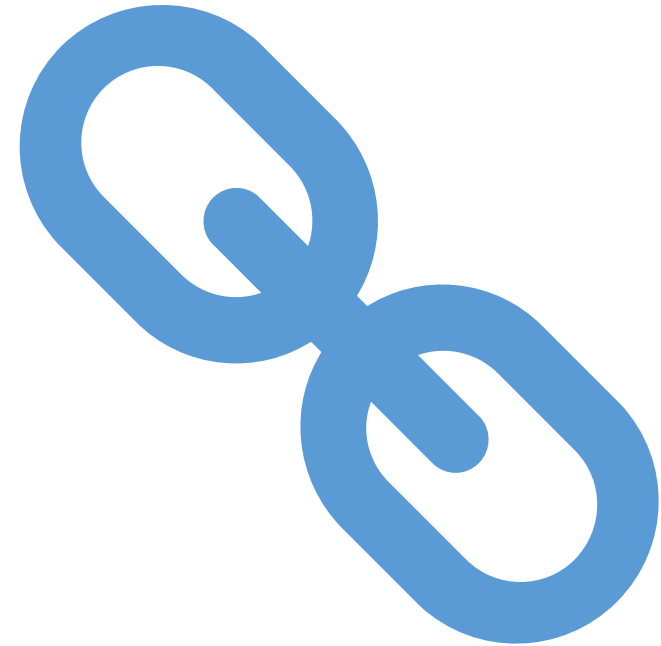| Link State	Description
a:link	unvisited link
a:visited	The user has visited this link
a:hover	The mouse has hovered this link
a:active	The moment of clicking the link

CSS Links (Cont.)

```css
a:link {
  color: blue;
}

/* visited link */
a:visited {
  color: purple;
}

/* mouse over link */
a:hover {
  color: orange;
}

/* selected link */
a:active {
  color: green;
}
```

CSS Tables

```
table, td, th {

  border: 1px solid black;

}


table {

  border-collapse: collapse;

  width: 100%;

}

th {

  height: 70px;

}
```

Firstname	Lastname	Savings
Peter	Griffin	$100
Lois	Griffin	$150
Joe	Swanson	$300
Cleveland	Brown	$250

https://www.w3schools.com/css/tryit.asp?filename=trycss_table_width

CSS Lists

```
• ul.a {
      list-style-type: circle;
  }

  ul.b {
      list-style-type: square;
  }

  ol.c {
      list-style-type: upper-roman;
  }

  ol.d {
      list-style-type: lower-alpha;
  }
• ul {
      list-style-image: url(mybullet.gif');
  }
```

CSS overflow Property

- Primarily Determines how the page should behave when the content is bigger than the actual element size.

- ```css
  div {
      overflow: scroll;
  }
  ```

Value	Description
overflow: visible	Displays the content regardless of the element size
overflow: hidden	Shows only the content that can fit within the element space
Overflow: scroll	A scroll bar is shown to scroll within the element area
overflow: auto	Same as the "scroll" value with the difference that the scroll bars are shown as needed.

Opacity / Transparency Property

- specifies the transparency of an element.

```css
img {
    opacity: 0.3;
}
```

```css
img:hover {
    opacity: 1.0;
}
```

Example :
https://www.w3schools.com/css/tryit.asp?filename=trycss_image_transparency

Linking to sections of a web page

- Link target can include an ID at the end, preceded by a #

- Browser will load that page and scroll to element with given ID

```
<p>Visit <a href=
"http://www.textpad.com/download/index.html#downloads">
textpad.com</a> to get the TextPad editor.</p>
<p><a href="#mission">View our Mission Statement</a></p>
```
HTML

Visit textpad.com to get the TextPad editor.

View our Mission Statement

output

CSS Combinator Selectors

CSS Combinator Selectors

Combinator	Description
descendant selector (space)	selects all descendant elements of the specified element.
child selector (>)	Selects only the child elements of the specified element.
Adjacent Sibling Selector (+)	select an element that is immediately after another specified element.
General Sibling Selector (~)	all elements that are next siblings of a specified element.

Descendant selector (space)

```
div p {
  background-color: lightblue;
}
```

```
<body>

<<h2>An example of a Descendant Selector</h2>

<div>
 <p>Paragraph 1 </p>
 <p>Paragraph 2 </p>
 <section><p>Paragraph 3</p></section>
</div>

<p>Paragraph 4. </p>
<p>Paragraph 5. </p>
</body>
```

An example of a Descendant Selector

Paragraph 1

Paragraph 2

Paragraph 3

Paragraph 4.

Paragraph 5.

Child selector (>)

```
Div >  p {
  background-color: lightblue;
}
```

```
<body>
<h2>An example of a Child Selector</h2>

<div>
 <p>Paragraph 1 </p>
 <p>Paragraph 2 </p>
 <section><p>Paragraph 3</p></section>
</div>

<p>Paragraph 4. </p>
<p>Paragraph 5. </p>

</body>
```

An example of a Child Selector

Paragraph 1

Paragraph 2

Paragraph 3

Paragraph 4.

Paragraph 5.

Adjacent Sibling Selector (+)

```
Div + p {
  background-color: lightblue;
}
```

```
<body>

<h2>An example of an Adjacent sibling Selector</h2>

<div>
  <p>Paragraph 1 </p>
  <p>Paragraph 2 </p>
  <section><p>Paragraph 3</p></section>
</div>

<p>Paragraph 4. </p>
<p>Paragraph 5. </p>

</body>
```

An example of an Adjecent sibling Selector

Paragraph 1

Paragraph 2

Paragraph 3

Paragraph 4.

Paragraph 5.

General Sibling Selector (~)

```css
Div ~ p {
  background-color: lightblue;
}
```

```html
<body>

<h2>An example of an General sibling Selector</h2>

<div>
 <p>Paragraph 1 </p>
 <p>Paragraph 2 </p>
 <section><p>Paragraph 3</p></section>
</div>

<p>Paragraph 4. </p>
<p>Paragraph 5. </p>

</body>
```

An example of an General sibling Selector

Paragraph 1

Paragraph 2

Paragraph 3

Paragraph 4.

Paragraph 5.

Attendance

Project –Teams Form

Thank You!

THE FIRST BRITISH HIGHER EDUCATION IN EGYPT

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