

IT1100 - Internet and Web Technologies

# **Lecture 03**

## **Basics of the client-side development**

# Content

- What is CSS and Why CSS?
- CSS statements with Properties and Values
- How to use CSS?
- Advanced selectors

# What is CSS and Why CSS?

# Introduction

- Development of the **browser-based** web application uses 3 main technologies in the client-side
  1. HTML – To develop the content
  2. CSS – To format/decorate the content
  3. JavaScript (JS) – To develop the application (processing) components

# CSS

- CSS – Cascading Style Sheets
- Used to
  - Decorate / Format web page content

# CSS and HTML

HTML



HTML+CSS





# Advantages of using CSS

- Reduce HTML formatting tags
- Easy modification
- Save lot of work and time
- Faster loading

# Without CSS



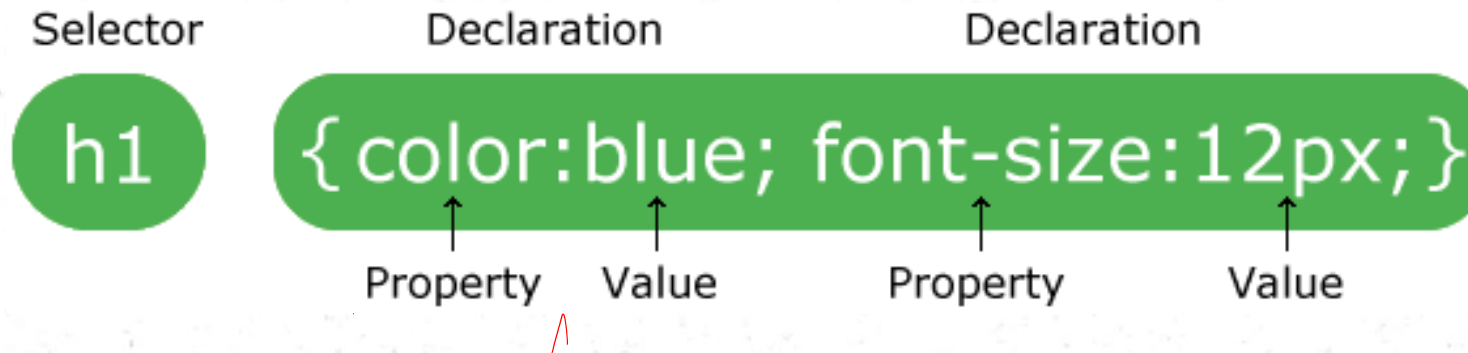
# With CSS





# CSS statements

# Selector, Properties and Values



- The selector points to the HTML element you want to style.
- The declaration block contains one or more declarations separated by semicolons.
- Each declaration includes a CSS property name and a value, separated by a colon.
- A CSS declaration always ends with a semicolon, and declaration blocks are surrounded by curly braces.

# Selector, Properties and Values

- Examples

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

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

```
p {  
    font-family: tahoma;  
    font-size: 25px;  
}
```

**My First CSS Example**

This is a paragraph.

<h1>My First CSS Example</h1>

<p>This is a paragraph.</p>

# Some formatting categories

- Positioning
- Size
- Alignment
- Font / Text
- Color / Background / Border

# Activity

Find the available CSS rules under the following categories

- Positioning
- Size
- Alignment
- Font / Text
  - [https://www.w3schools.com/css/css3\\_fonts.asp](https://www.w3schools.com/css/css3_fonts.asp)
- Color / Background / Border
  - [https://www.w3schools.com/css/css3\\_backgrounds.asp](https://www.w3schools.com/css/css3_backgrounds.asp)

# How to use CSS?

1. Inline

2. Internal sheets

3. External sheets



# How to use CSS?

# Inline

- defined within the "**style**" attribute of the relevant element

- Used as HTML attribute

`<tag style = "CSS Statements" >`

# Inline

## *Examples*

- `<h1 style="color:red;">Heading 01</h1>`
- `<p style="color:blue; font-family: Tahoma;">  
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</p>`

# Question 1

`<h1>my timetable</h1>`

**Ex.** Apply below CSS rules to the element above

- `text-align: center;`
- `color: #0000CC;`
- `font-family: Tahoma, Geneva, sans-serif;`
- `font-size: 32px;`

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
</head>
```

```
<body>
```

```
<h1 style="text-align:center; color:#0000CC;  
font-family:Tahoma, Geneva, sans-serif; font-  
size:32px;">my timetable </h1>
```

```
</body>
```

```
</html>
```



Output

**my timetable**

# Inline

- `<h1 style="text-align:center; color:#0000CC; font-family:Tahoma, Geneva, sans-serif; font-size:32px;">my timetable</h1>`
- `<h1 style="text-align: center; color:#0000CC; font-family: Tahoma, Geneva, sans-serif; font-size: 32px;">my timetable</h1>`

This is more readable



# Internal style sheet

- Why not inline CSS?
  - Difficult to modify
- Solution
  - Internal style sheet

# Internal style sheet

- Where to write?

1. In the **head** section of the HTML document

2. Using the **style** element

`<style></style>`

# Internal style sheet

- How to write?

```
<head>
```

```
  <style>
```

```
  Selector
```

```
  {
```

```
    /* CSS Statements */
```

```
  }
```

```
  </style>
```

```
</head>
```

# Internal style sheet

- We use **selectors** to access the content
- Selectors
  1. **By Element** (h1, p, a)
  2. **By ID** (#MainHeading, #Section1)
  3. **By Class** (.Menu, .Header, .Footer)

# Internal style sheet [By element]

```
<!DOCTYPE html>
<html>
<head>
  <style>
    a {
      color:#F00;
    }
  </style>
</head>
<body>

<a href="www.sliit.lk">visit SLIIT</a>

</body>
</html>
```



Output

visit SLIIT

# Internal style sheet [By ID]

- CSS in **head** <style></style>

```
#ParaMain{  
    color:#F00;  
}
```

- Use the **ID** attribute for the element in the **body**
  - ID should be unique

```
<p id="ParaMain">My paragraph </p>
```



# Internal style sheet [By ID]

```
<!DOCTYPE html>
<html>
<head>
  <style>
    #ParaMain{
      color:#F00;
    }
  </style>
</head>
<body>

<p id="ParaMain">My paragraph </p>
<p >My paragraph </p>
<p>My paragraph </p>

</body>
</html>
```

Output

My paragraph

My paragraph

My paragraph

# Internal style sheet [By class]

- CSS in **head** <style></style>

```
.MainFont
{
    font:sans-serif;
    font-size:12px;
}
```

Use the **class** attribute for the element(s) in the **body**

- There can be multiple element, who belong to the same class

```
<p class="MainFont">My paragraph </p>
```

```
<a class="MainFont" href="www.google.com">Google</a>
```

# Internal style sheet [By class]

```
<!DOCTYPE html> <html> <head>
<style>
.MainFont_1
{
    font-size:12px; color:blue;
}
.MainFont_2
{ font-size:12px; color:red; }
</style>
</head> <body>
    <p class="MainFont_1">My paragraph </p>
    <a class="MainFont_1" href="www.google.com">Google</a>
    <a class="MainFont_2" href="www.google.com">Google</a>
</body> </html>
```



Output

My paragraph

Google Google

# External style sheets

## Why External?

- Easy to modify
- Uniform formatting in the site
- Design themes
- Faster loading

# External style sheets

CSS is coded in an **external** file

- Extension of the file should be **.css**
- The code in the file starts with the line

`@charset "utf-8";`

## 3.3. External style sheets

```
@charset "utf-8";  
/* CSS Comments*/
```

```
.MainFont  
{  
    font: Tahoma, Geneva, sans-serif;  
    font-size: 12px;  
}
```



# External style sheets

How to link the external CSS file with the web page?

- within the **<link>** element, inside the **<head>** section

```
<head>
```

```
  <link rel="stylesheet" href="CSSMain.css">
```

```
</head>
```

```
<!DOCTYPE html>
<html>
<head>
  <link rel="stylesheet" href="html_external.css">
</head>
<body>
  <p class="MainFont">My paragraph </p>
  <a class="MainFont_1" href="www.google.com">Google</a>
  <a class="MainFont_2" href="www.google.com">Google</a>
</body>
</html>
```

```
.MainFont
{
    font: Tahoma, Geneva, sans-serif;
    font-size: 12px;
}
.MainFont_1
{
    font:Tahoma, Geneva, sans-serif;
    font-size:12px;
    color:blue;
}
.MainFont_2
{
    font:Tahoma, Geneva, sans-serif;
    font-size:12px;
    color:red;
}
```

Output

My paragraph

Google Google

# Advanced Selectors

# Pseudo Elements

- A CSS pseudo-element is used to style specified parts of an element.
- For example, it can be used to:
  - Style the first letter, or line, of an element
  - Insert content before, or after, the content of an element

# Pseudo Elements

## Notation

```
Selector::pseudo-element {  
    /* CSS Statements */  
}
```

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

Year one Semester 02 modules.  
There are 4 modules.

```
<p>Year one Semester 02 modules. <br>  
There are 4 modules. </p>
```

# Pseudo Classes

- A CSS pseudo-element is used to used to define a special state of an element.
- For example, it can be used to:
  - Style an element when a user mouses over it
  - Style visited and unvisited links differently



# Pseudo Classes

## Notation

```
Selector:pseudo-class {  
    /* CSS Statements */  
}
```

```
/* mouse over link */  
a:hover  
{  
    background-color: red;  
}
```

# Example 01

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

</style>
</head>
<body>

<h1>This is a heading</h1>
<h2>This is a smaller heading</h2>
<p>This is a paragraph.</p>
<p>This is another paragraph.</p>

</body>
</html>
```

```
<!DOCTYPE html>
<html>
<head>
<style>
h1, p {
    color: red;
}
</style>
</head>
<body>

<h1>This is a heading</h1>
<h2>This is a smaller heading</h2>
<p>This is a paragraph.</p>
<p>This is another paragraph.</p>

</body>
</html>
```

**This is a heading**

**This is a smaller heading**

This is a paragraph.

This is another paragraph.

# Example 02

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

</style>
</head>
<body>

<h1>This is a Heading</h1>
<p id="para1">This is a paragraph.</p>
<p>This is another paragraph.</p>

</body>
</html>
```

```
<!DOCTYPE html>
<html>
<head>
<style>
#para1 {
    color: red;
}
</style>
</head>
<body>

<h1>This is a Heading</h1>
<p id="para1">This is a paragraph.</p>
<p>This is another paragraph.</p>

</body>
</html>
```

**This is a Heading**

This is a paragraph.

This is another paragraph.

# Exercise

```
<!DOCTYPE html>
<html>
<head> <style>
h1 {
  text-transform: uppercase;
}
p {
  text-transform: capitalize;
}
</style> </head>
<body>
<h1>This is a Heading</h1>
<p>This is a paragraph.</p>
<p>This is another paragraph.</p>
</body>
</html>
```

Result:

**THIS IS A HEADING**

This Is A Paragraph.

This Is Another Paragraph.

# CSS – Summary

- What is and Why CSS?
- CSS statements with Properties and Values
- How to use CSS?
- Advanced selectors