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UNIVERSITY
OF WOLLONGONG
AUSTRALIA

CSIT884
Web Development

Lecture 02 - CSS

Lecture slides are mainly taken from UOW

CSS

Objectives

- Understand the need of separation between the content and the style of your website
- Learn 3 different ways to define web page styles
- Use CSS language to define styles for your web pages

Cascading Style Sheets

- CSS provides a separation between the HTML document content and document presentation (style).
- 3 ways to add styling to HTML elements:
  - Inline
    - using a **`style`** attribute in HTML elements
  - Document
    - using `<style>` element in the HTML `<head>` section
  - External
    - using external CSS files

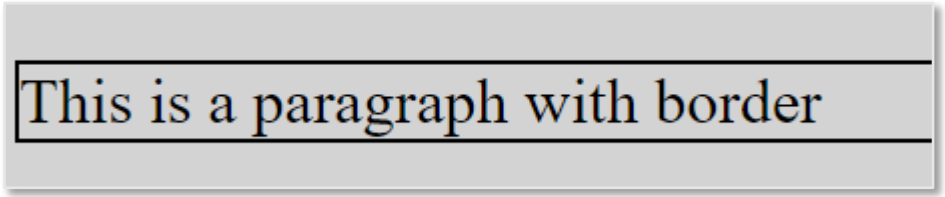
Inline CSS

By using a **`style`** attribute in HTML elements

```
<body style="background-color:lightgrey;">

<h1 style="color:blue;">This is a Blue Heading</h1>
```

Inline CSS

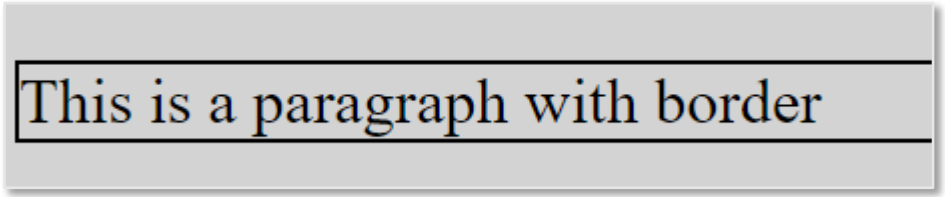
```
<p style="border:1px solid black;">

   This is a paragraph with border

</p>
```



Inline CSS

This is called a CSS **property**

```
<p style="border:1px solid black;">

   This is a paragraph with border

</p>
```



Inline CSS

```
<p style="border:1px solid black; padding:10px; color:blue;
font-family:courier; font-size:150%;">
    This is a paragraph with a lot of styling
</p>
```

This is a paragraph with a lot of styling

Inline CSS

```
<p style="border:1px solid black; padding:10px; color:blue; font-family:courier; font-size:150%;">
    This is a paragraph with a lot of styling
</p>
```

- A CSS style is specified with the following format

  property:value

- We can specify more than one CSS property, separated by a semicolon (;)

  ```
  style="border:1px solid black; padding:10px; color:blue; font-family:courier; font-size:150%;">
  ```

- A CSS property may have many values separated by space

  ```
  border:1px solid black
  ```

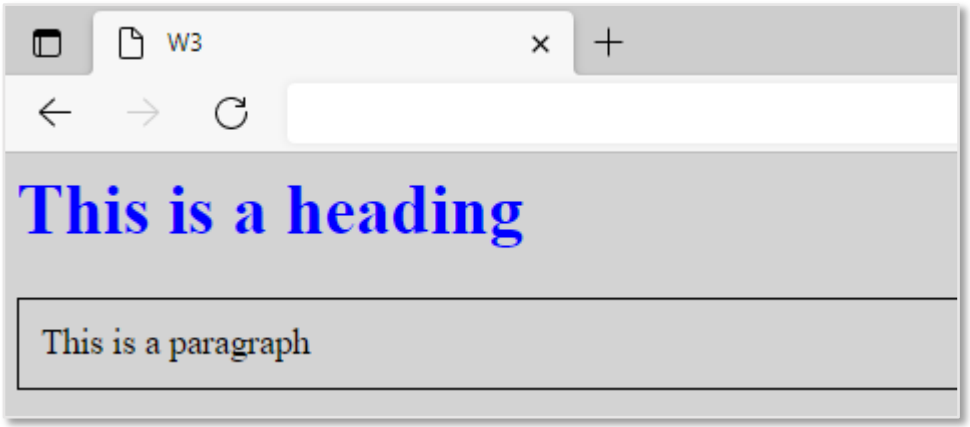
Color

- CSS supports 140 standard color names.
- Color can also be specified by hex code.

```
<h1 style="color:lightgrey;">This is a Light Grey Heading</h1>

<h1 style="color:#D3D3D3;">This is a Light Grey Heading</h1>
```

Document CSS

```
<html>
<head>
<title>W3</title>
<style>
    body {background-color:lightgrey;}
    h1 {color:blue;}
    p {border:1px solid black; padding:10px;}
</style>
</head>
<body>
    <h1>This is a heading</h1>
    <p>This is a paragraph</p>
</body>
</html>
```



External CSS

```
<html>
<head>
<title>W3</title>
<link rel="stylesheet" href="path/to/mystyle.css">
</head>
<body>
    <h1>This is a heading</h1>
    <p>This is a paragraph</p>
</body>
</html>
```

mystyle.css

```
body {background-color:lightgrey;}
h1 {color:blue;}
p {border:1px solid black; padding:10px;}
```

Levels of CSS

- Inline CSS has precedence over document CSS
- Document CSS has precedence over external CSS
- Suppose an external CSS specifies a value for a particular property of a HTML element, then that value can be overridden by a document CSS, which in turn, can be overridden by an inline CSS.

CSS convention

This is a valid CSS

mystyle.css

```
body {background-color:lightgrey;}
h1 {color:blue;}
p {border:1px solid black; padding:10px;}
```

But for better clarity, we should use the following convention:

```
body {
   background-color:lightgrey;
}
h1 {
   color:blue;
}
p {
   border:1px solid black;
   padding:10px;
}
```

each property on a separate line

Simple selector

This is called a simple selector

```
p {
   border:1px solid black;
   padding:10px;
}
```

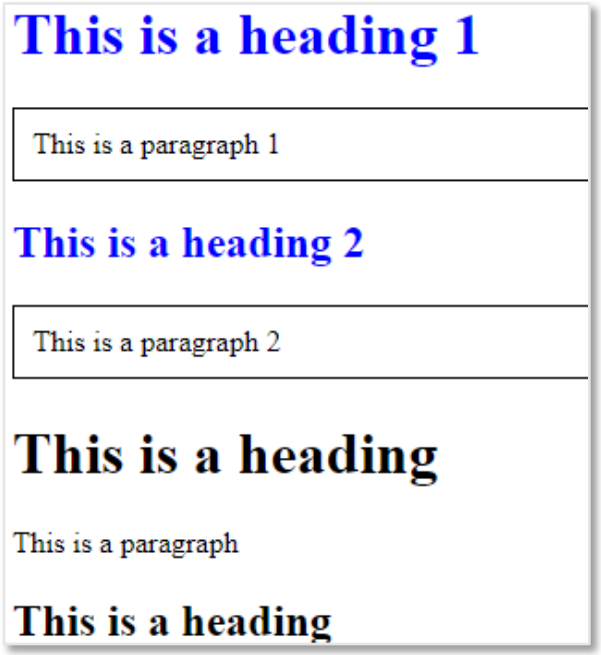
We can also have this simple selector.

In this case, all <h1> and <h2> elements will be applied with this style.

```
h1,h2 {
   border:1px solid black;
   color:blue;
}
```

Class selector

```
<h1 class="userInfo">This is a heading 1</h1>
<p class="userInfo">This is a paragraph 1</p>
<h2 class="userInfo">This is a heading 2</h2>
<p class="userInfo">This is a paragraph 2</p>
<h1 class="eticket">This is a heading</h1>
<p class="eticket">This is a paragraph</p>
<h2 class="eticket">This is a heading</h2>
```



All <p> elements of class userInfo will be applied with this style.

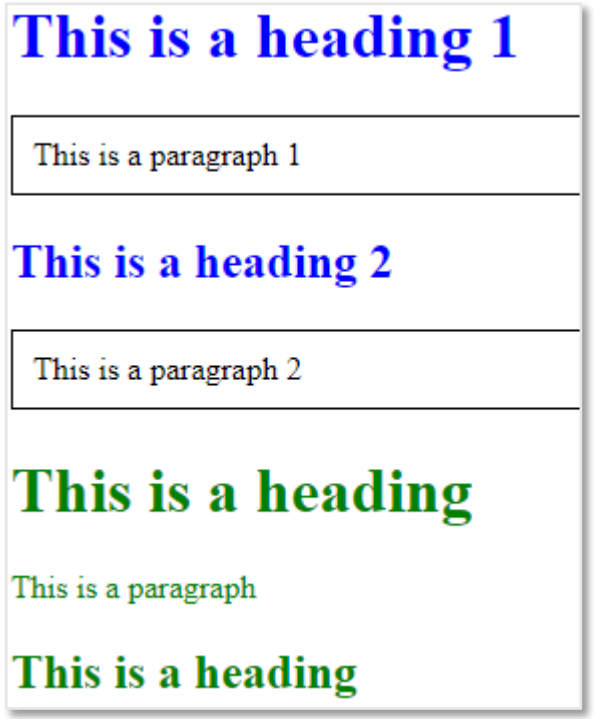
```
p.userInfo {
    border:1px solid black;
    padding:10px;
}
```

All <h1> and <h2> elements of class userInfo will be applied with this style.

```
h1.userInfo, h2.userInfo {
   color:blue;
}
```

Class selector

```
<h1 class="userInfo">This is a heading 1</h1>
<p class="userInfo">This is a paragraph 1</p>
<h2 class="userInfo">This is a heading 2</h2>
<p class="userInfo">This is a paragraph 2</p>
<h1 class="eticket">This is a heading</h1>
<p class="eticket">This is a paragraph</p>
<h2 class="eticket">This is a heading</h2>
```

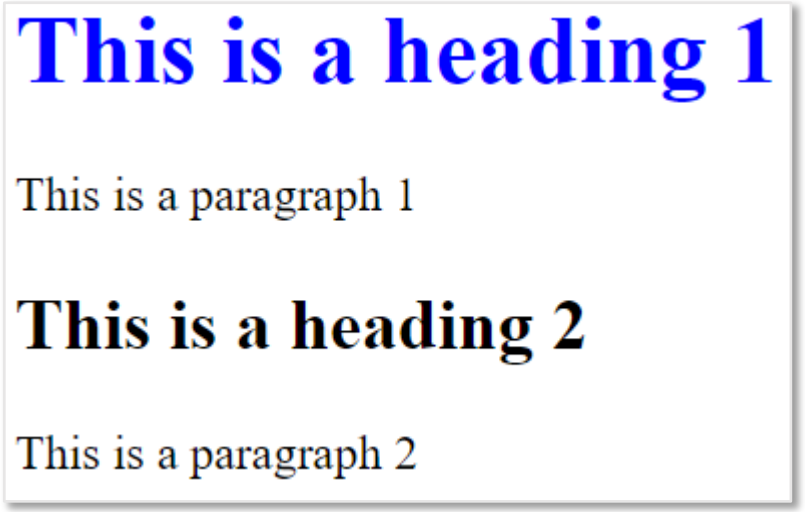


All elements of class `eticket` will be applied with this style.

```
.eticket {
    color:green;
}
```

Id selector

```
<h1 id="userHeading">This is a heading 1</h1>

<p id="userDetails">This is a paragraph 1</p>

<h2 id="bankHeading">This is a heading 2</h2>

<p id="bankDetails">This is a paragraph 2</p>
```



The element with **id** `userHeading` will be applied with this style.

```
#userHeading {
  color:blue;
}
```

Note that each HTML element should have a **unique id**.

Descendant-Ancestor

An element `F` is a descendant of element `E` if it appears in the content of `E`. In this case, `E` is called an ancestor of `F`.

```
<E>
    …
    <F>
    …
</E>
```

```
<E>
    <E2>
        …
        <F>
        …
    </E2>
</E>
```

```
<E>
    <E2>
        <E3>
            …
            <F>
            …
        </E3>
    </E2>
</E>
```

Descendant-Ancestor

Example:

```
<div>
    Some text <i>italic</i> here.
    <p>
      Hi there <i>italic again</i>
    </p>
    <div>
      This is the final <i>italic</i>.
    </div>
</div>
```

What are the descendants of this element `div` ?

Child-Parent

An element `F` is a child of element `E` if it is nested directly in the content of `E`. In this case, `E` is called a parent of `F`.

```
<E>
    ...
    <F>
    ...
</E>
```

Of course, if F is a child of E then F is also a descendant of E.

Child-Parent

Example:

What are the children of this element `div`?

```
<div>
    Some text <i>italic</i> here.
    <p>
      Hi there <i>italic again</i>
    </p>
    <div>
      This is the final <i>italic</i>.
    </div>
</div>
```

Contextual selector

Apply this style to every **descendant** of E

```
E F {
  property:value
  …
}
```

Apply this style to every **child** F of E

```
E > F {
  property:value
  …
}
```

Contextual selector

```
<div>
    Some text <i>italic</i> here.
    <p>
      Hi there <i>italic again</i>
    </p>
    <div>
      This is the final <i>italic</i>.
    </div>
</div>
```

```
div i {
    color:red;
}
```

Some text *italic* here.

Hi there *italic again*

This is the final *italic*.

Contextual selector

```
<div>
    Some text <i>italic</i> here.
    <p>
      Hi there <i>italic again</i>
    </p>
    <div>
      This is the final <i>italic</i>.
    </div>
</div>
```

```
div > i {
    color:red;
}
```

Some text *italic* here.

Hi there *italic again*

This is the final *italic*.

Contextual selector

```
<div class="userInfo">
    Some text <i>italic</i> here.
    <p>
      Hi there <i>italic again</i>
    </p>
    <div class="bankInfo">
      This is the final <i>italic</i>.
    </div>
</div>
```

```
div.userInfo i {
    color:red;
}
```

Some text *italic* here.

Hi there *italic again*

This is the final *italic*.

Contextual selector

```
<div class="userInfo">
    Some text <i>italic</i> here.
    <p>
      Hi there <i>italic again</i>
    </p>
    <div class="bankInfo">
      This is the final <i>italic</i>.
    </div>
</div>
```

```
div.userInfo > i {
    color:red;
}
```

Some text *italic* here.

Hi there *italic again*

This is the final *italic*.

Contextual selector

```
<div class="userInfo">
    Some text <i>italic</i> here.
    <p>
      Hi there <i>italic again</i>
    </p>
    <div class="bankInfo">
      This is the final <i>italic</i>.
    </div>
</div>
```

```
div.bankInfo i {
    color:red;
}
```

Some text *italic* here.

Hi there *italic again*

This is the final *italic*.

Contextual selector

```
<div class="userInfo">
    Some text <i>italic</i> here.
    <p>
      Hi there <i>italic again</i>
    </p>
    <div class="bankInfo">
      This is the final <i>italic</i>.
    </div>
</div>
```

```
div.bankInfo > i {
    color:red;
}
```

Some text *italic* here.

Hi there *italic again*

This is the final *italic*.

Pseudo class selector

```
<a href="http://www.uow.edu.au">UOW</a>
```

The link pseudo class is used to style a link that has not been selected.

The visited pseudo class is used to style a link that previously has been selected.

```
a:link {
  color:red;
}

a:visited {
  color:green;
}
```

```
h1:hover {
 color:blue;
}
```

```
<h1>A heading</h1>
```

Any time the mouse cursor is position over the h1 element then the style will be applied.

List properties

```
<ol>
     <li>First level item 1
          <ol>
               <li>Second level item 1.1</li>
               <li>Second level item 1.2</li>
          </ol>
     </li>

     <li>First level item 2
          <ol>
               <li>Second level item 2.1</li>
               <li>Second level item 2.2</li>
          </ol>
     </li>
</ol>
```

```
ol {
 list-style-type:decimal;
}
ol ol {
 list-style-type:upper-roman;
}
```

other values: decimal-leading-zero, lower-alpha, lower-latin, lower-greek, disc, square, circle

1. First level item 1
    I. Second level item 1.1
    II. Second level item 1.2
2. First level item 2
    I. Second level item 2.1
    II. Second level item 2.2

List properties

```
<ol>
    <li>Item 1</li>
    <li>Item 2</li>
</ol>
```

```
ol {
   list-style-image:url(path/to/imagefile);
}
```

span

Sometimes it is useful to have a word or phrase in a line appear in a different style, we use … for this purpose.

```
This is how we change the style of some

<span class="specialText">special text</span>.

Here is also

<span class="specialText">special</span>.
```

```
span.specialText {
    color:red;
    font-family:Ariel;
    font-size:150%;
}
```

This is how we change the style of some special text. Here is also special.

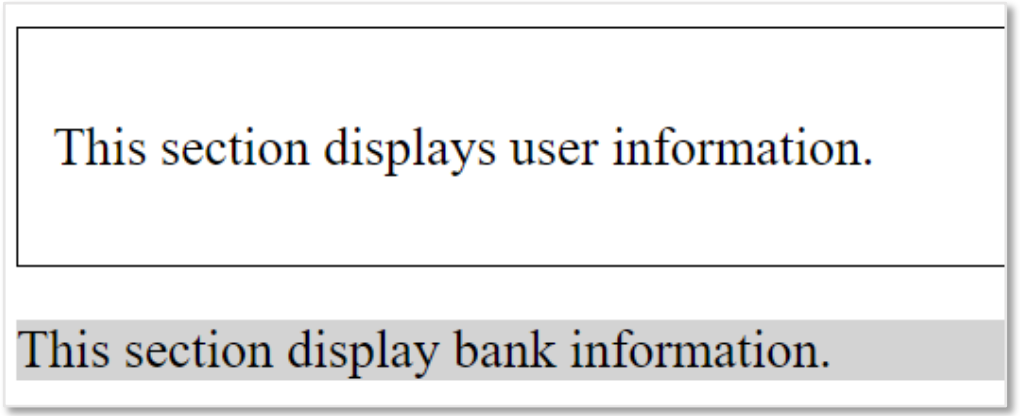
div

Sometimes we want to have different style at different section of the webpage,

we use … for this purpose.

```
<div class="userInfo">
    <p>This section displays user information.</p>
</div>
<div class="bankInfo">
    <p>This section display bank information.</p>
</div>
```

```
div.userInfo {
 border:1px solid black;
 padding:10px;
}
div.bankInfo {
 background-color:lightgrey;
}
```



Comments in CSS

A comment starts with `/*` and ends with `*/`

Comments can span over multiple lines.

```
p {
    border:1px solid black;
    /* This is a single-line comment */
    color:blue;
}

/* This is
a multi-line
comment */
```

References

- http://www.w3schools.com/css
- https://en.wikipedia.org/wiki/Cascading_Style_Sheets
- https://developer.mozilla.org/en-US/docs/Web/CSS/Reference