

CSIT884

Web Development

CSS

W



UNIVERSITY
OF WOLLONGONG
AUSTRALIA

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>
```

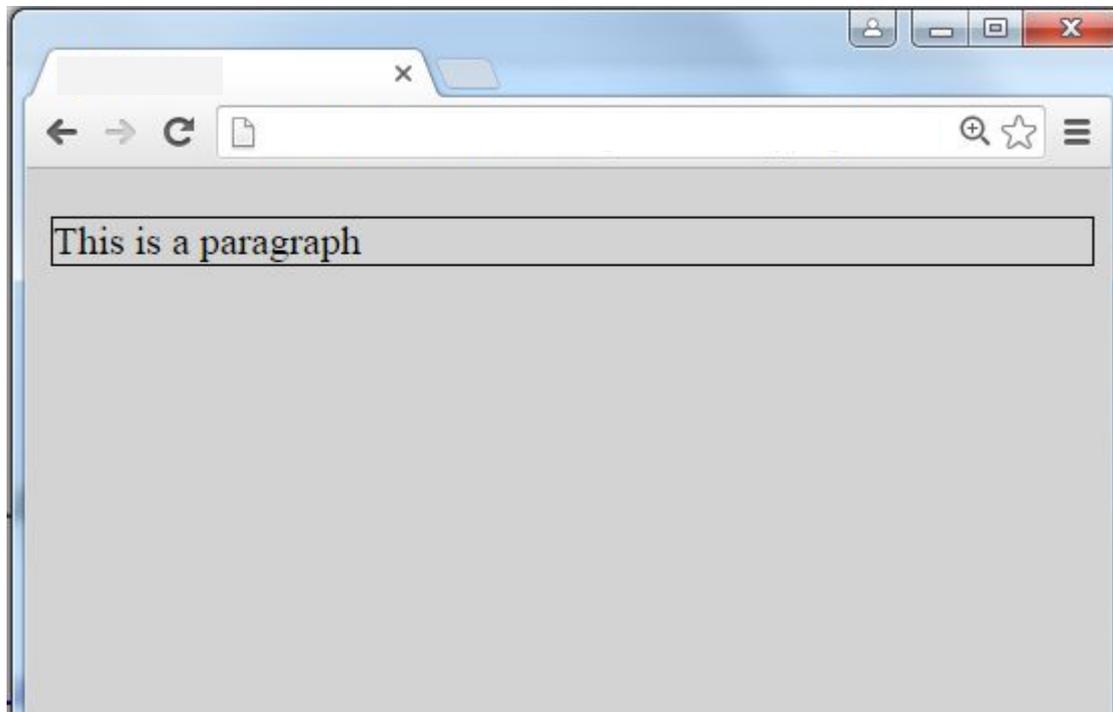


Inline CSS

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

This is a paragraph with border

```
</p>
```



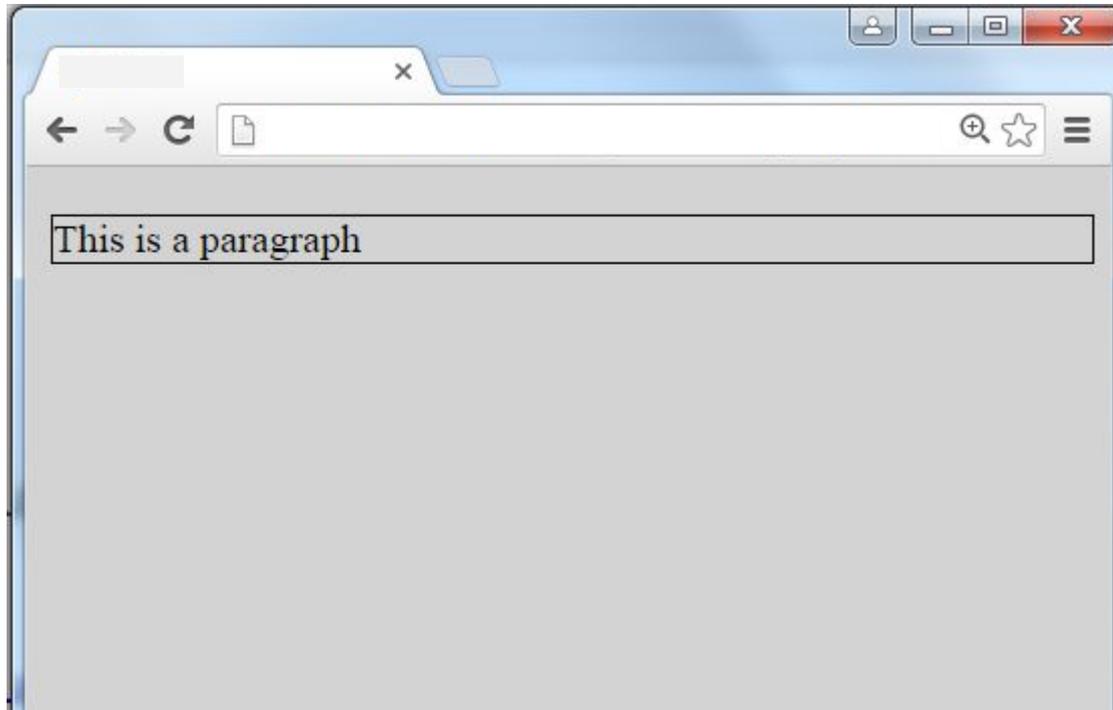
this is called a CSS **property**

Inline CSS

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

This is a paragraph with border

```
</p>
```

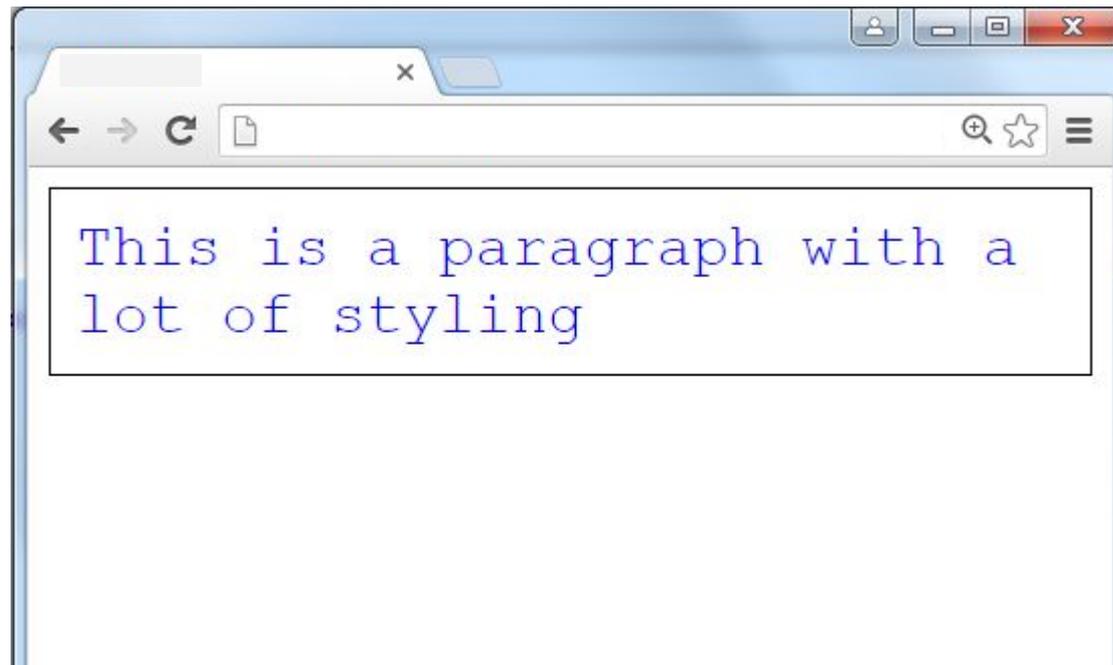


Inline CSS

```
<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>
```



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.

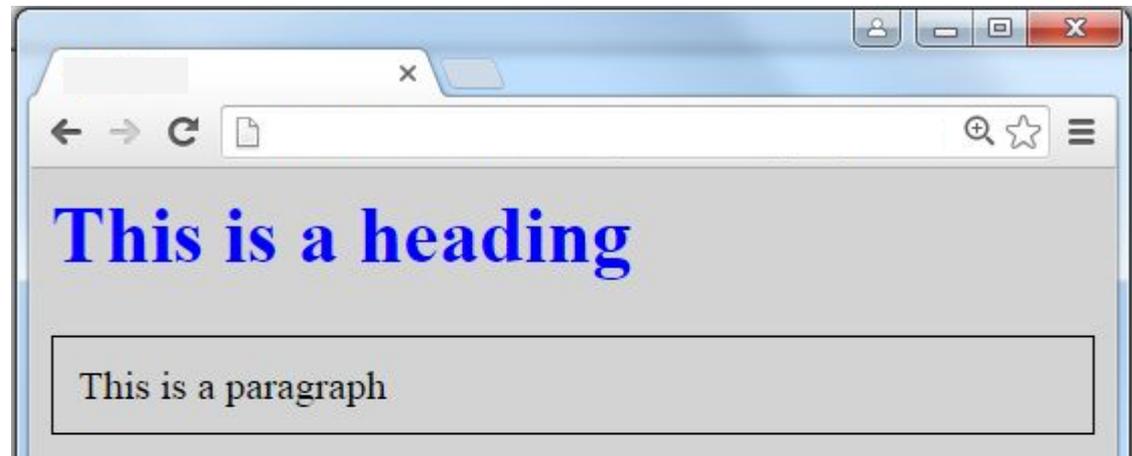
Color can also be specified by hex code.

```
<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>
```

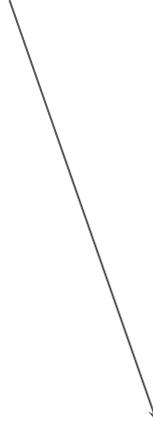


External CSS

```
<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

mystyle.css

This is a valid 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.



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

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

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-Anccestor

What are the descendants
of this element `div` ?

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>`

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

What are the children
of this element `div` ?

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>`

Contextual Selector

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



```
E F {  
  property:value  
  ...  
}
```

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



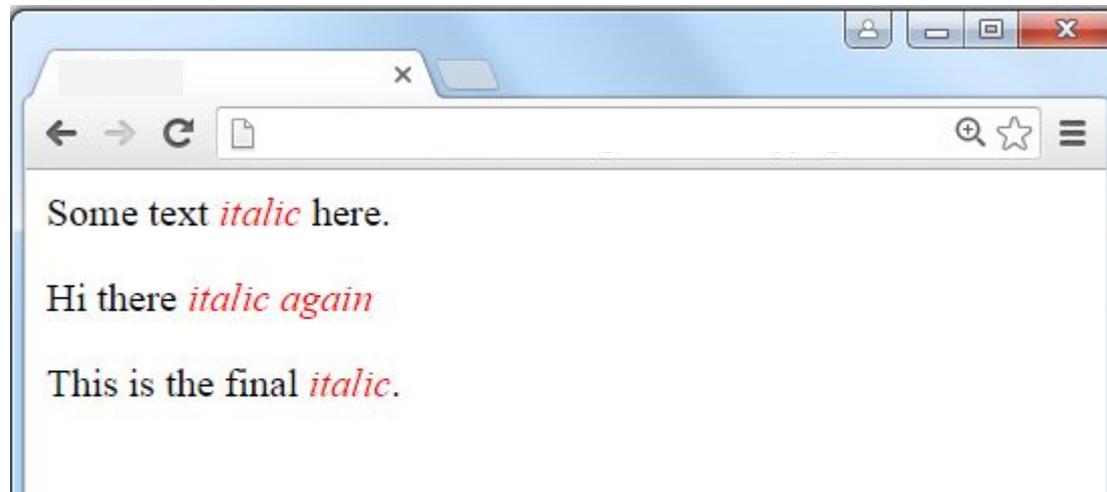
```
E > F {  
  property:value  
  ...  
}
```

Contextual Selector

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 i {  
  color:red;  
}
```



Contextual Selector

Example:

```
<div>
```

Some text `<i>italic</i>` here.

```
<p>
```

Hi there `<i>italic again</i>`

```
</p>
```

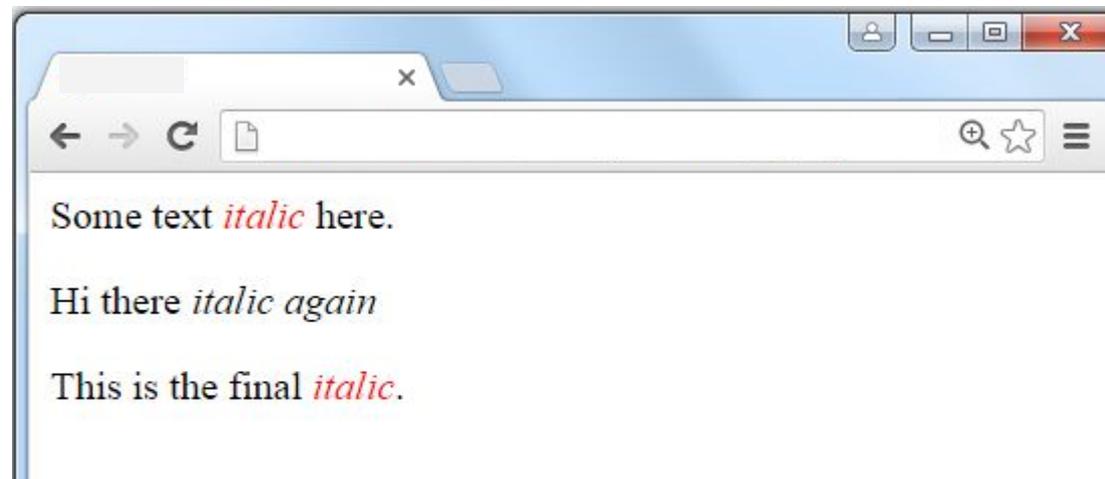
```
<div>
```

This is the final `<i>italic</i>`.

```
</div>
```

```
</div>
```

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

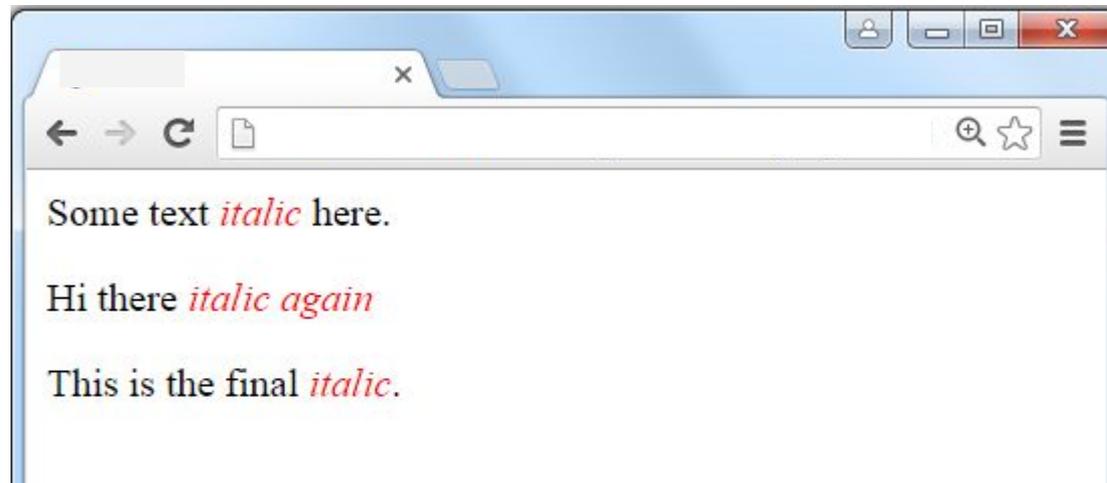


Contextual Selector

Example:

```
<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;  
}
```

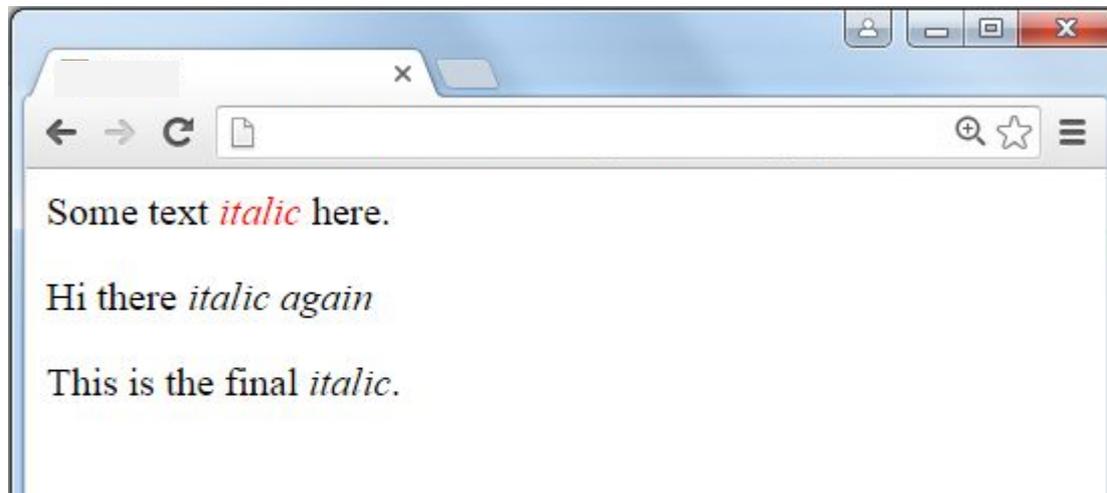


Contextual Selector

Example:

```
<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;  
}
```

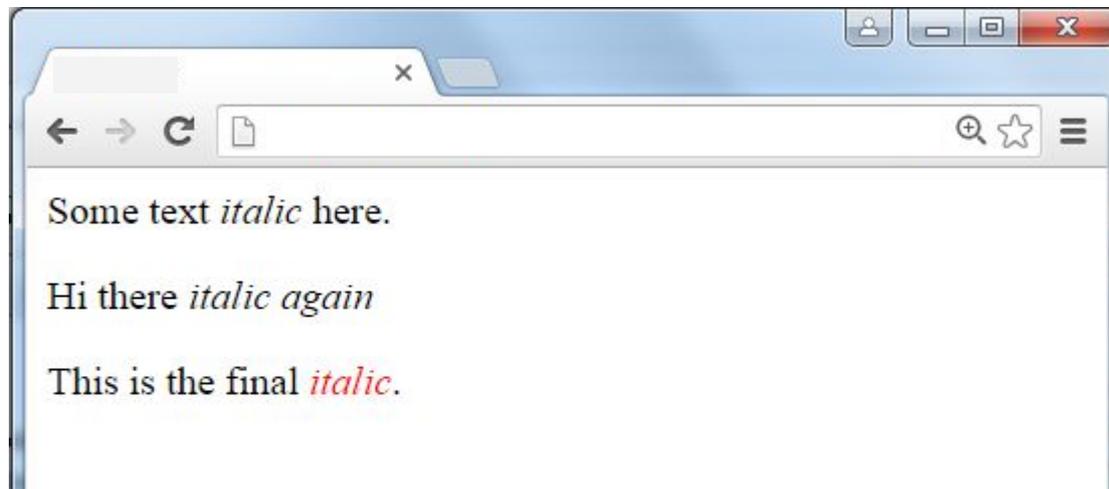


Contextual Selector

Example:

```
<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;  
}
```

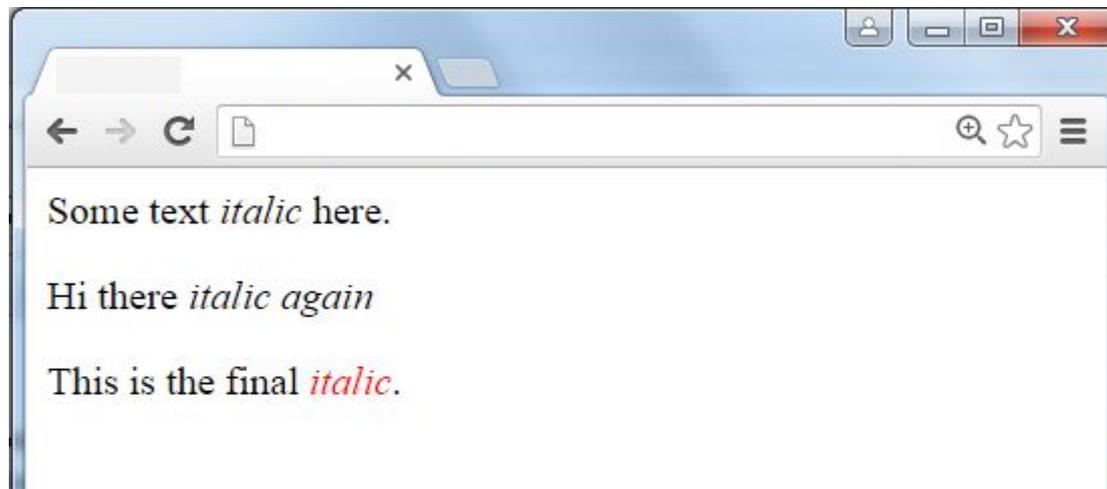


Contextual Selector

Example:

```
<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;  
}
```



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

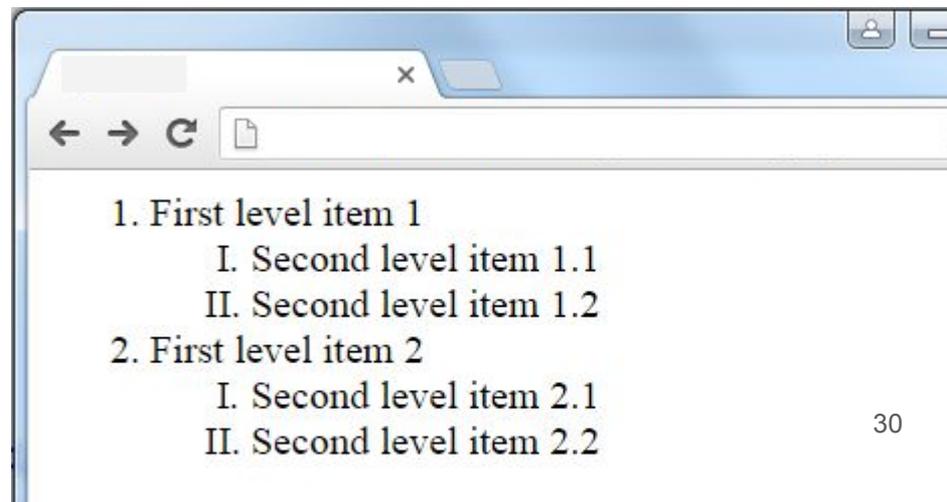
```
<ol>
  <li>First level item 1
    <ol>
      <li>Second level item 1.1</li>
      <li>Second level item 1.2</li>
    </ol>
  </li>

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

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

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

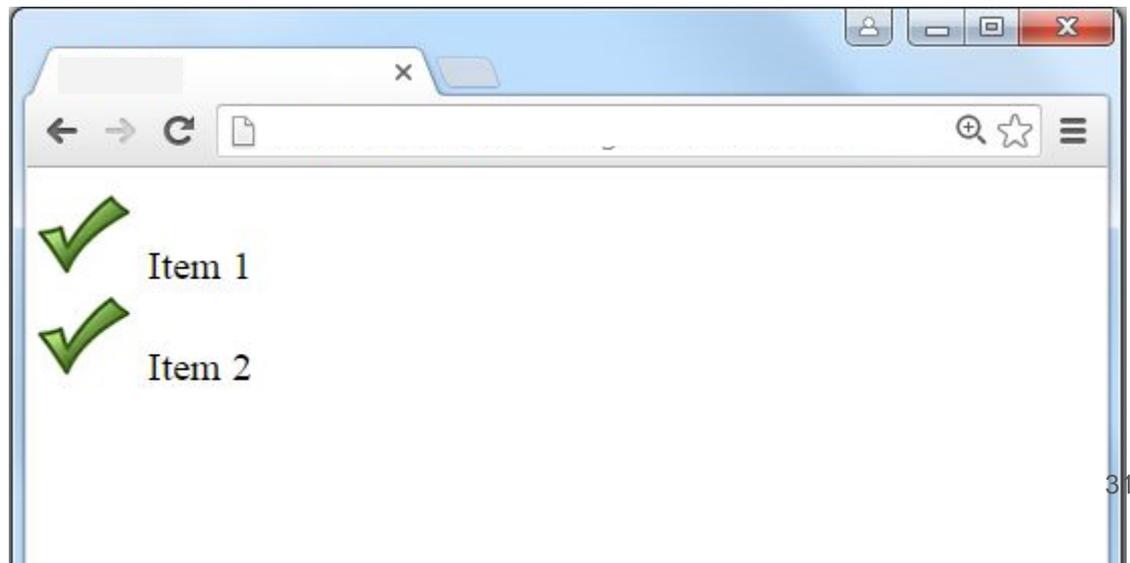
```
ol ol {
  list-style-type: upper-roman;
}
```



List properties

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

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



span

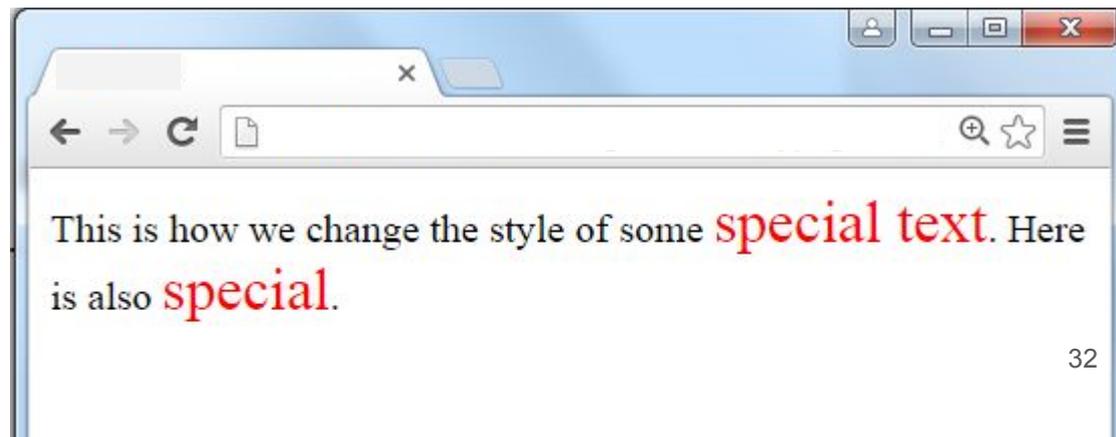
Sometimes it is useful to have a word or phrase in a line appear in a different style, we use `... ` for this purpose.

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

Here is also

`special`.

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



div

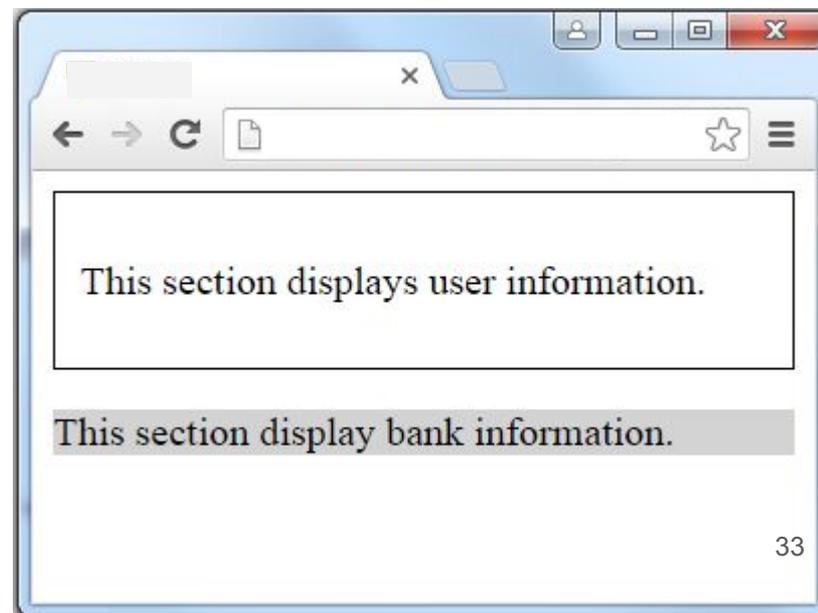
Sometimes we want to have different style at different section of the webpage, we use `<div>... </div>` for this purpose.

```
<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>