


HTML and CSS

Lecture 15 - COMPSCI1111/111G SS 2018



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Essential Tags

- **HTML5 requires the following tags to be in your html source file:**
 - html
 - head
 - title
 - body

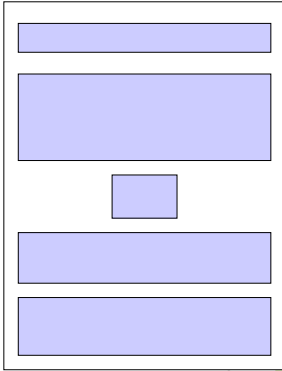
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Block-level tags

Define the structure of a "block"

- ▶ Headings
- ▶ Paragraphs
- ▶ Lists
- ▶ Tables
- ▶ Preformatted text



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Paragraphs

`<p>`

- ▶ Defines a paragraph of text

```
<html lang="en">
<head>
<meta charset="UTF-8">
<title>Introduction to tags</title>
</head>
<body>
<p>This is a very simple web page</p>
<p>
It contains two different paragraphs
of text.
</p>
</body>
</html>
```



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Exercises

Create a complete HTML5 document with the title "Simple page". The only text that should appear on the page is "Hello World".

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<title>Simple Page</title>
</head>
<body>
<p>Hello World</p>
</body>
</html>
```

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Headings

Six levels of headings

- ▶ `<h1>` **First level heading**
- ▶ `<h2>` **Second level heading**
- ▶ `<h3>` **Third level heading**
- ▶ `<h4>` **Fourth level heading**
- ▶ `<h5>` **Fifth level heading**
- ▶ `<h6>` **Sixth level heading**

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Headings

```
<html lang="en">
<head>
<meta charset="UTF-8">
<title>Introduction to tags</title>
</head>
<body>
<h1>A very simple web page</h1>
<p>It contains two paragraphs and two headings</p>
<h2>Second section</h2>
<p>This section is less important</p>
</body>
</html>
```



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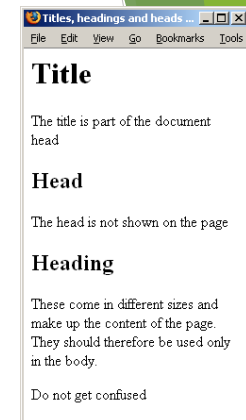
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Example of Head, Heading and Title

```
<html>
<head>
<meta charset="UTF-8">
<title> Titles, headings and heads</title>
</head>
<body>
<h1>Title</h1>
<p>The title is part of the document head</p>

<h2>Head</h2>
<p>The head is not shown on the page</p>

<h2>Heading</h2>
<p>These come in different sizes and make up the content of the page. They should therefore be used only in the body.</p>
<p>Do not get confused</p>
</body>
</html>
```



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Ordered Lists

Ordered Lists

- ▶ Automatically numbered
- ▶ ` ... ` Contains the entire list
- ▶ ` ... ` Used for each list item

```
<p>Structure of an HTML document</p>
<ol>
<li>HTML</li>
<li>HEAD</li>
<li>BODY</li>
</ol>
```

Structure of an HTML document

1. HTML
2. HEAD
3. BODY

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Unordered Lists

Unordered Lists

- ▶ Bullet Points
- ▶ ` ... ` Contains the entire list
- ▶ ` ... ` Used for each list item

```
<p>Structure of an HTML document</p>
<ul>
<li>HTML</li>
<li>HEAD</li>
<li>BODY</li>
</ul>
```

Structure of an HTML document

- HTML
- HEAD
- BODY

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Description Lists

Terms and explanations

- ▶ `<dl> ... </dl>` Contains the entire list
- ▶ `<dt> ... </dt>` Defines a term in a description list
- ▶ `<dd> ... </dd>` Is used to describe a term in a description list

```
<p>Some definitions</p>
<dl>
<dt>HTML</dt>
<dd>Hypertext Markup Language</dd>
</dl>
```

Some Definitions

HTML
Hypertext Markup Language

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Tables

`<table>`

- Used to format tables of information
- By default, there are no borders shown

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9					
10			LAB 05 Terry Spencer Ben Yip	LAB 08 Ben Yip Jacqui Longley	LAB 11 Young Ly Terry Spencer
11					
12					
1	LAB 01 Elena Calade Jacqui Longley	LAB 03 Ann Cameron Young Ly	LAB 06 Jacqui Longley Young Ly	LAB 09 Ann Cameron Mark Roper	LAB 12 Ann Cameron Terry Spencer
2					
3					
4	LAB 02 Andrew Luxton Young Ly	LAB 04 Ann Cameron Mark Roper	LAB 07 Mark Roper Simon Dixon	LAB 10 Jacqui Longley Simon Dixon	
5					
6					

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Tags required to format Tables

Tags

- `<table> ... </table>` Surrounds the entire table
- `<tr> ... </tr>` Identifies a row in the table
- `<td> ... </td>` Each element/cell of data in the row

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A simple table example

```
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>Simple Table</title>
</head>
<body>
  <p>What follows is a simple table:</p>
  <table>
    <tr>
      <td>One Row</td><td>Two Columns</td>
    </tr>
  </table>
</body>
</html>
```

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Exercises

Write a fragment of HTML5 code that will generate a table with 2 rows and 1 column. The text in the first row should be "first row" and the text in the second row should be "second row".

```
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>Simple Table</title>
</head>
<body>
  <table>
    <tr><td>first row</td></tr>
    <tr><td>second row</td></tr>
  </table>
</body>
</html>
```

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Inline tags

- ▶ Appear within the blocks
 - ▶ Apply to words within paragraphs etc.
- ▶ Common inline tags
 - ▶ Line Breaks
 - ▶ Images
 - ▶ Hypertext References

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Empty tags

- ▶ Tags that apply at a given point
 - ▶ Do not format content
 - ▶ Only the opening tag is required.
- ▶ Line breaks
 - ▶ `
`
- ▶ Images
 - ▶ ``

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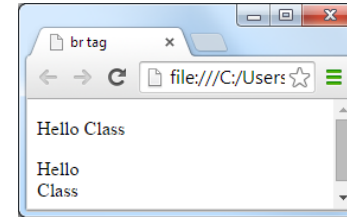
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Line break

- ▶ Breaks a line
 - ▶ Same as hitting the Enter key
 - ▶ Use `
`

```
<p>Hello Class</p>
<p>Hello<br>Class</p>
```



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Images

- ▶ Pages may contain images
 - ▶ But images are not plain text
 - ▶ Can't be inserted directly into HTML page
- ▶ Solution
 - ▶ Store the image on the internet (or locally on disk)
 - ▶ Tag contains the address of the image
 - ▶ Web browser loads image when required
 - ▶ Only use images the browser understands
 - ▶ GIF, JPG, PNG

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Image tag

- ```

```
- ▶ Insert an image at this location
- ```
src
```
- ▶ The source file of the image
 - ▶ Attribute that specifies the file name
- ```
alt
```
- ▶ Attribute to specify alternate text
  - ▶ Displayed if the image can't load
  - ▶ Important for people with visual impairment

```

```

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## <img> example

An image is inserted inline, so it is used inside a block-level element (a paragraph in this example).

```
<p>
Here is one of my holiday pictures.

It was late December and it was very cold.
</p>
```

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## Hypertext reference

A link to another resource on the WWW

- ▶ References to other documents
- ▶ Pages, images, files, sections

```
<a>
```

- ▶ Anchor tag

```
href
```

- ▶ Attribute used to specify the destination of the link
- ▶ URL

```
link text
```

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## URLs

Fully specified

- ▶ Protocol
- ▶ Host name
- ▶ Path
- ▶ File

Relative

- ▶ Omit the first parts
- ▶ Path and file
- ▶ File

```
http://www.cs.auckland.ac.nz/courses/compsci111/index.html
/courses/compsci111/index.html
lectures/index.html
index.html
```

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## Exercises

What HTML5 code is required to create a hypertext reference that links to a page at the location:

<http://www.cs.auckland.ac.nz/courses/compsci111/>

The underlined link on the page should be the text "111 home page".

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<title>Simple Page</title>
</head>
<body>
<p>

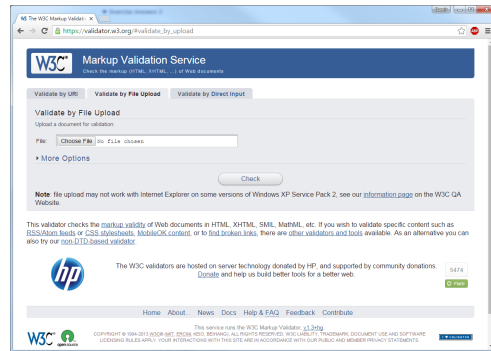
111 home page
</p>
</body>
</html>
```

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## Validated Code

- ▶ Online system to check correctness of code
  - ▶ Provided by W3C
  - ▶ <http://validator.w3.org>



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## Example

```

<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<title>A sample page</title>
</head>
<body>
<h1>Example</h1>
<p>This is a complete html5 web page. You can verify that all the
code is correct using the W3C
Validator.</p>
<h2>Images</h2>
<p>If your code is correct, you will get this message showing that
your page has validated.</p>
<p>

</p>
<p>
Author: Damir Azhar

Date: 19/01/15

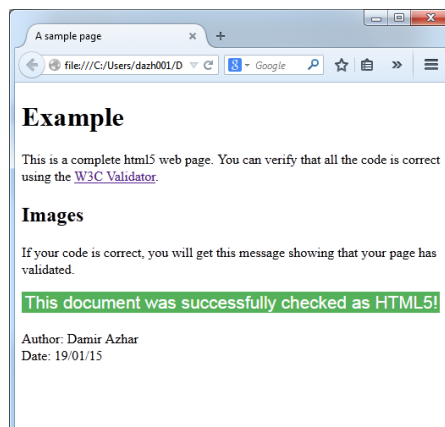
</p>
</body>
</html>

```

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## Example page



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## Sections

- `<section>` tag defines a section in a HTML5 document.
  - Can be used to split a web page into different sections.
- Is an example of a semantic element.
  - An element that clearly defines its content to both the browser and the developer.

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## <section> example

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<title>Section Tag Example</title>
</head>
<body>
<h1>About Me</h1>

<section>
<h2>Work</h2>
<p>Most of my work centres around COMPSCI 111
where I:</p>

Lecture
Run labs

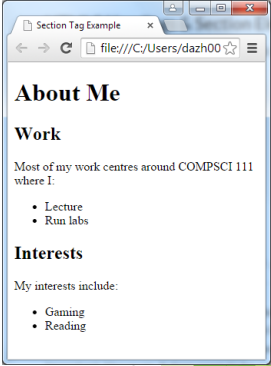
</section>

<section>
<h2>Interests</h2>
<p>My interests include:</p>

Gaming
Reading

</section>

</body>
</html>
```



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