HTML and CSS

Lecture 14 - COMPSCI111/111G S1 2018

Block-level tags

- Headings
- Paragraphs
- Lists
- Tables
- Preformatted text

Essential Tags

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

Paragraphs

<p>Defines a paragraph of text</p>

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

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

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

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

Example of Head, Heading and Title

```html
<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>
```
Ordered Lists

- Automatically numbered
- `<ol> ... </ol>` contains the entire list
- `<li> ... </li>` used for each list item

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

Unordered Lists

- Bullet Points
- `<ul> ... </ul>` contains the entire list
- `<li> ... </li>` used for each list item

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

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

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

Tables

- `<table>` used to format tables of information
- By default, there are no borders shown

```html
<table>
  <tr>
    <th>MONDAY</th>
    <th>TUESDAY</th>
    <th>WEDNESDAY</th>
    <th>THURSDAY</th>
    <th>FRIDAY</th>
  </tr>
  <tr>
    <td>LAB 01</td>
    <td>Andrew</td>
    <td>Young</td>
    <td>Yip</td>
    <td>Yip</td>
  </tr>
</table>
```
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

![Diagram showing table structure and components]

**A simple table example**

```html
<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>
```

**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
<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>
```

**Inline tags**

- **Appear within the blocks**
  - Apply to words within paragraphs etc.

- **Common inline tags**
  - Line Breaks
  - Images
  - Hypertext References
Empty tags

- Tags that apply at a given point
  - Do not format content
  - Only the opening tag is required.

- Line breaks
  - \(<br>\)

- Images
  - \(<img>\)

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

Line break

- Breaks a line
  - Same as hitting the Enter key
  - Use \(<br>\)

\(<p>Hello Class</p>\)
\(<p>Hello<br>Class</p>\)

Image tag

- Insert an image at this location

\(<img src=\"filename\" alt=\"description\">\)
An image is inserted inline, so it is used inside a block-level element (a paragraph in this example).

Here is one of my holiday pictures. It was late December and it was very cold.

A link to another resource on the WWW

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

Anchor tag

Attribute used to specify the destination of the link

URL


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>
<a href="http://www.cs.auckland.ac.nz/courses/compsci111/">111 home page</a>
</p>
</body>
</html>
Validated Code

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

Example

```html
<!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 <a href="http://validator.w3.org">W3C Validator</a>.</p>
<h2>Images</h2>
<p>If your code is correct, you will get this message showing that your page has validated.</p>
<p><img src="validated.png" alt="Validated html5"></p>
<p>Author: Damir Azhar<br>Date: 19/01/15<br></p>
</body>
</html>
```

Example page

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.
<section> example

```html
<!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>
<ul>
<li>Lecture</li>
<li>Run labs</li>
</ul>
</section>
<section>
<h2>Interests</h2>
<p>My interests include:</p>
<ul>
<li>Gaming</li>
<li>Reading</li>
</ul>
</section>
</body>
</html>
```