

HTML and CSS

Lecture 15 - COMPSCI111/111G SS 2018



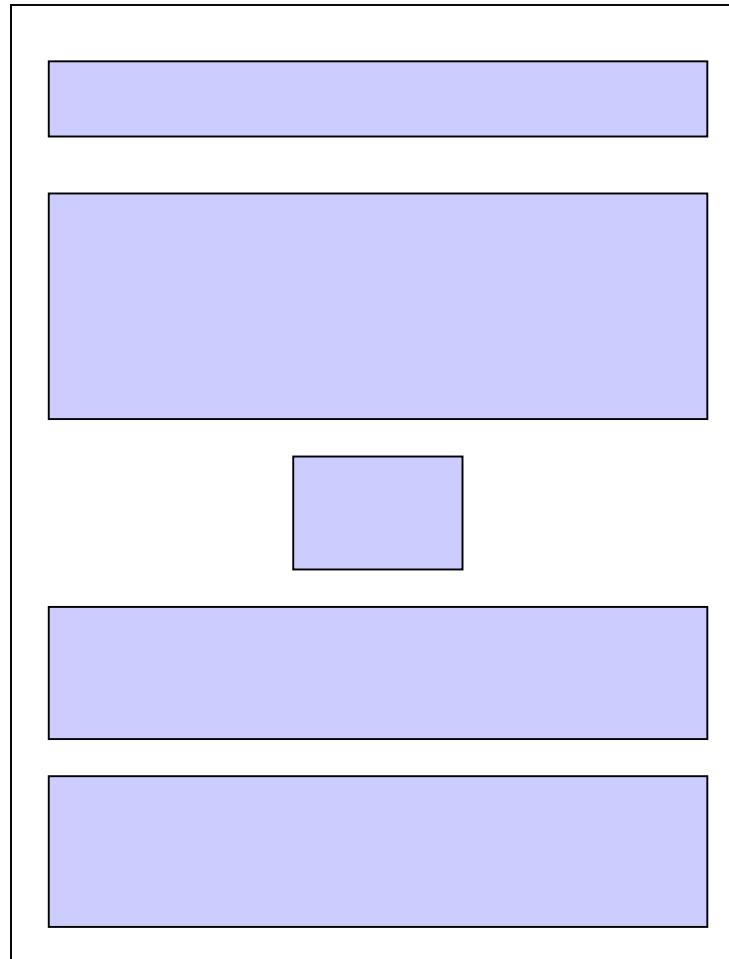
Essential Tags

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

Block-level tags

Define the structure of a “block”

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



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>
```



Exercises

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

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**

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>
```

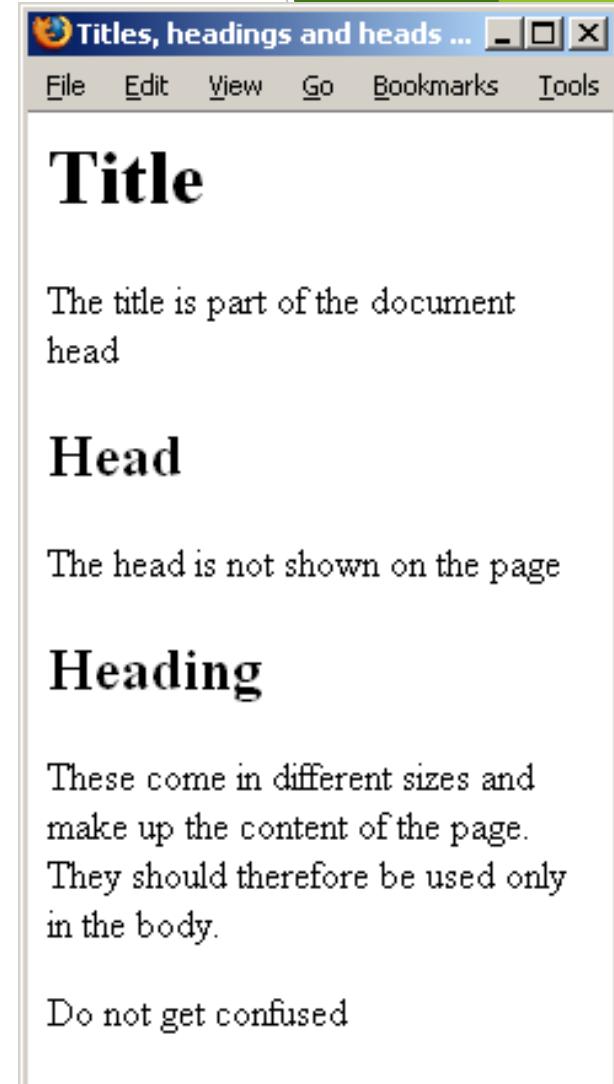


Example of Head, Heading and Title

```
<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>
```

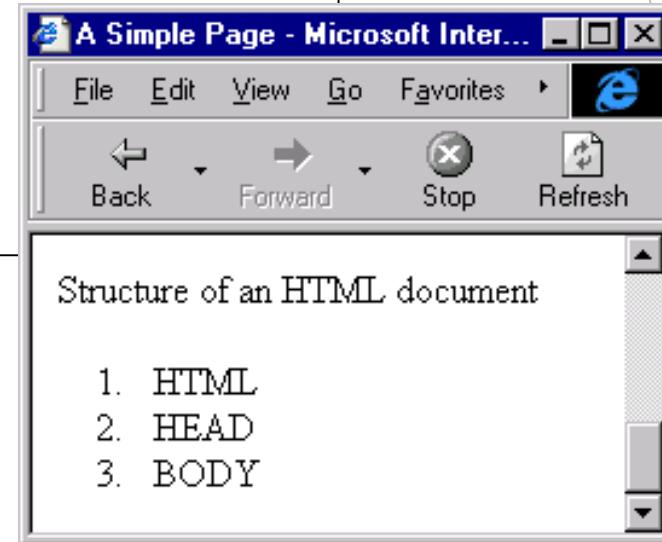


Ordered Lists

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>
```

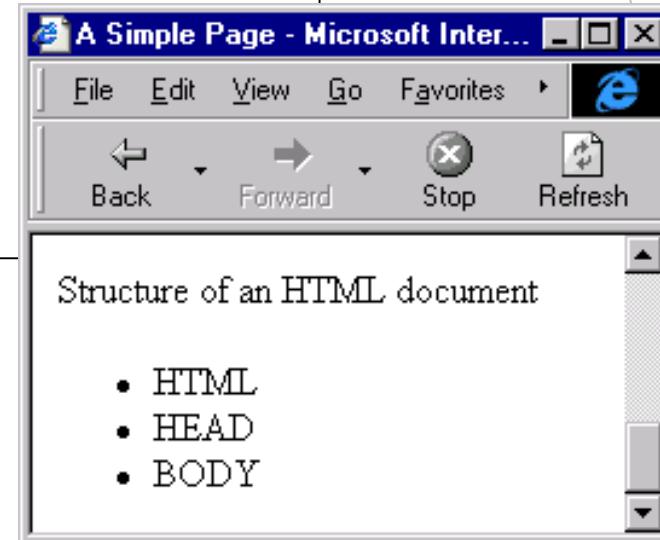


Unordered Lists

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>
```

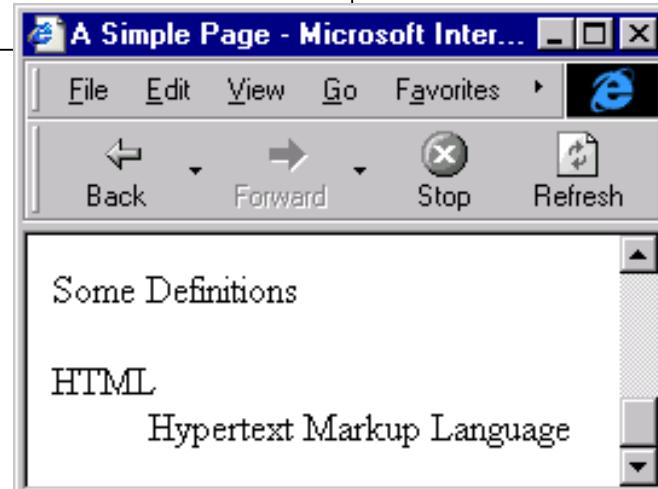


Description Lists

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>
```



Tables

<table>

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

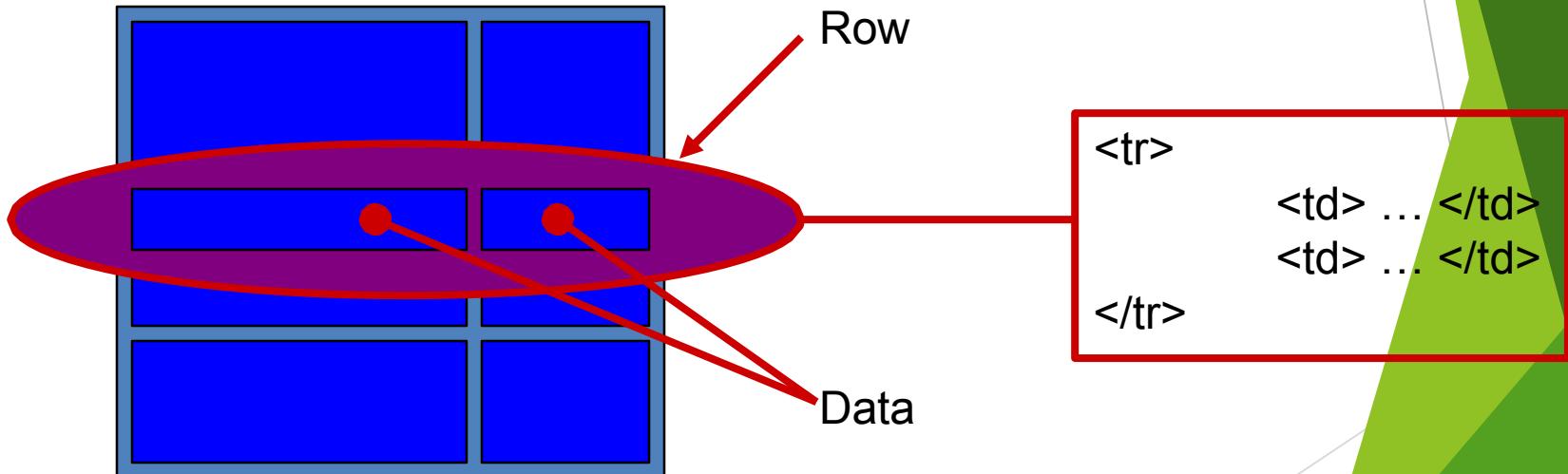
The screenshot shows a vintage-style Netscape browser window titled "Netscape: Lab Timetable". The main content is a "TIMETABLE" for five days of the week. The table has rows for hours (9, 10, 11, 12) and columns for Monday through Friday. Each cell contains a lab number and the names of the staff members assigned to that lab.

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9					
10				LAB 05 Terry Spencer Ben Yip	LAB 08 Ben Yip Jacqui Longley
11					LAB 11 Young Ly Terry Spencer
12					
1	LAB 01 Elena Calude 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					

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



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>
```



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”.

Inline tags

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

Empty tags

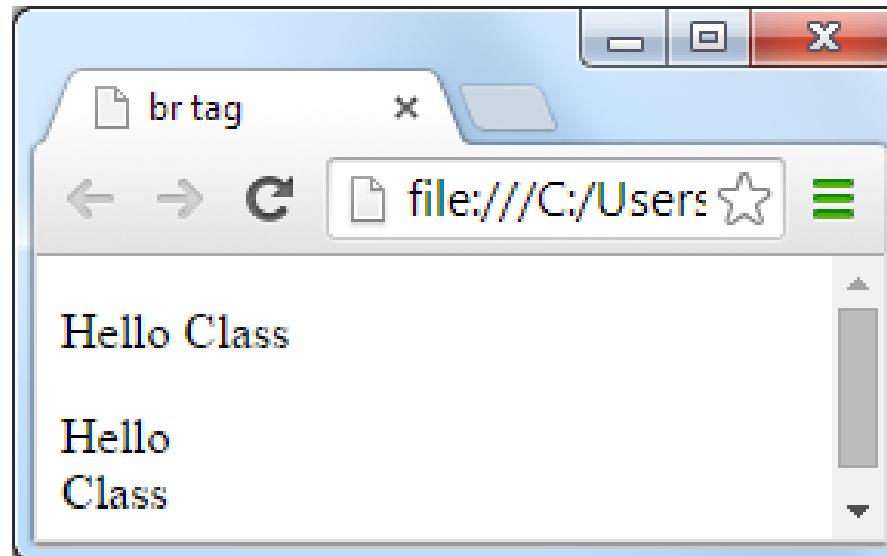
- ▶ Tags that apply at a given point
 - ▶ Do not format content
 - ▶ Only the opening tag is required.
- ▶ Line breaks
 - ▶

- ▶ Images
 - ▶

Line break

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


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



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

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

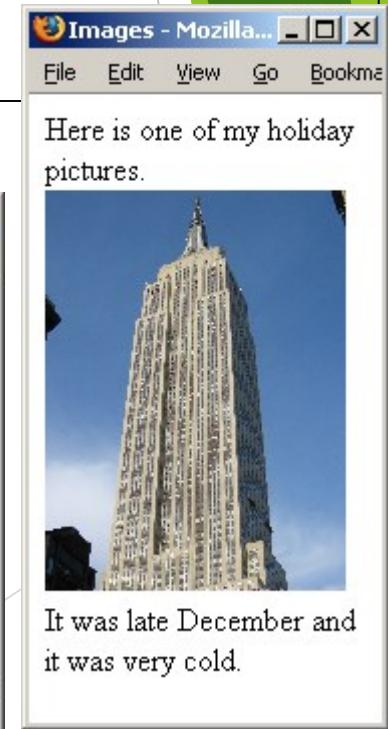
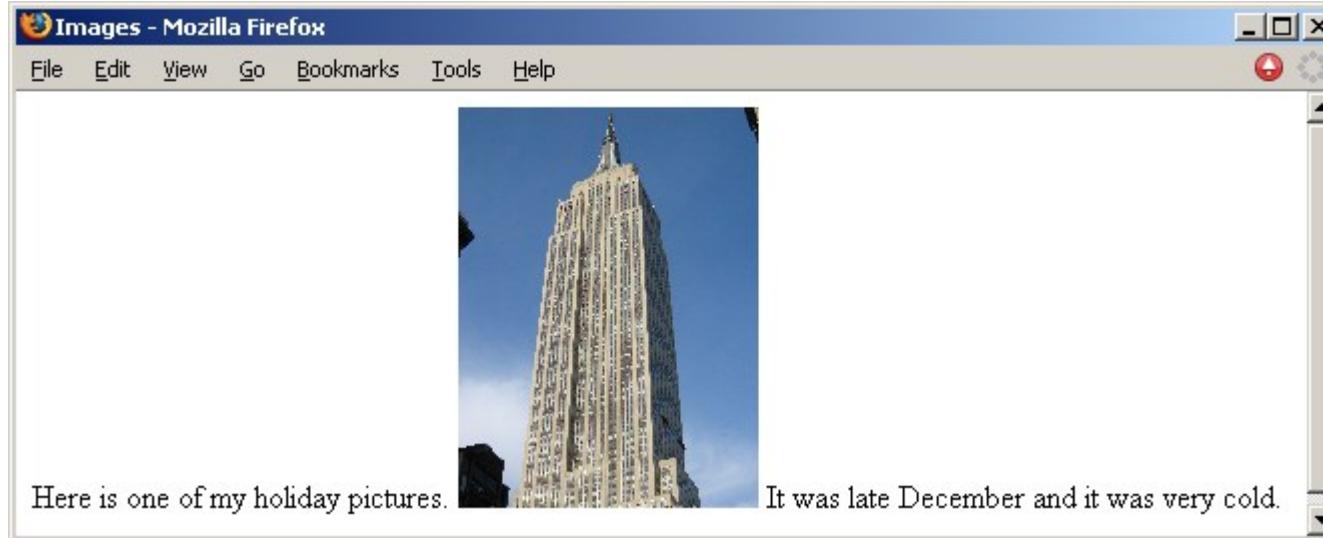
```

```

 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>
```



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

```
<a href="...url...">link text</a>
```

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`

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>
<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>

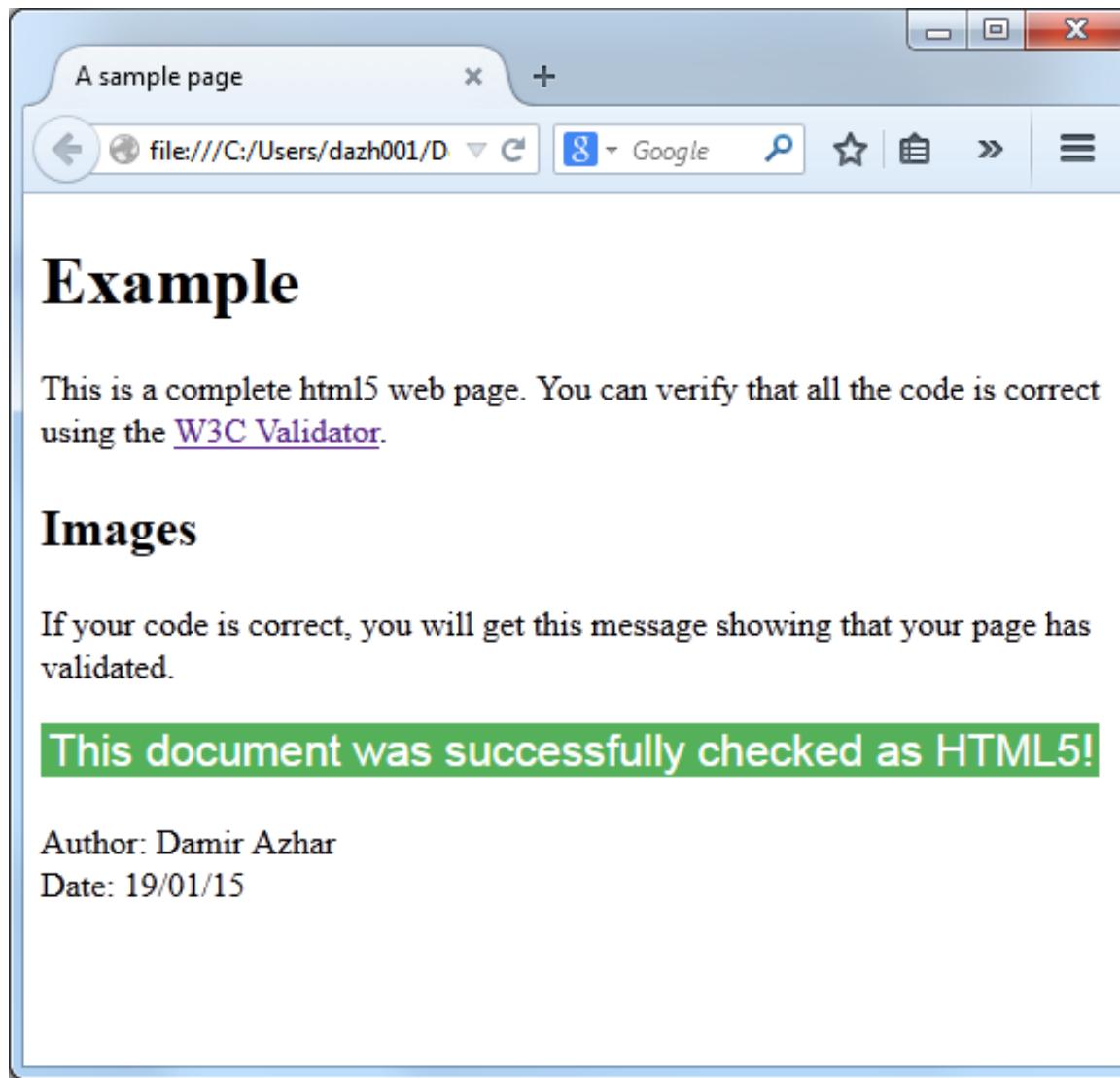
The screenshot shows a web browser window with the title "W3C The W3C Markup Validator". The URL in the address bar is https://validator.w3.org/#validate_by_upload. The page itself is titled "Markup Validation Service" and features the W3C logo. It has three main validation options: "Validate by URI", "Validate by File Upload", and "Validate by Direct Input". The "Validate by File Upload" section is active, showing a file input field with the placeholder "Choose File No file chosen". Below it is a link "More Options". A "Check" button is located further down. A note at the bottom of this section states: "Note: file upload may not work with Internet Explorer on some versions of Windows XP Service Pack 2, see our [information page](#) on the W3C QA Website." A message below explains the validator's scope: "This validator checks the [markup validity](#) of Web documents in HTML, XHTML, SMIL, MathML, etc. If you wish to validate specific content such as [RSS/Atom feeds](#) or [CSS stylesheets](#), [MobileOK content](#), or to [find broken links](#), there are [other validators and tools](#) available. As an alternative you can also try our [non-DTD-based validator](#)." At the bottom left is the HP logo with the text: "The W3C validators are hosted on server technology donated by HP, and supported by community donations. [Donate](#) and help us build better tools for a better web." To the right are social sharing buttons for Flattr and a counter showing 5474. The footer includes links for Home, About..., News, Docs, Help & FAQ, Feedback, and Contribute, along with the W3C open source logo. A small note at the bottom right reads: "This service runs the W3C Markup Validator, v1.3+hg".

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 <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>

</p>
<p>
Author: Damir Azhar<br>
Date: 19/01/15<br>
</p>
</body>
</html>
```

Example page



Example

This is a complete html5 web page. You can verify that all the code is correct using the [W3C Validator](#).

Images

If your code is correct, you will get this message showing that your page has validated.

This document was successfully checked as HTML5!

Author: Damir Azhar

Date: 19/01/15

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

```
<!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>
```

