TOPIC 2.1
CREATING A WEB PAGE USING HTML

OBJECTIVES

- Using HTML 5 to structure web documents
    - Introduction to usage of HTML 5
    - Document structure

HTML AND STYLE SHEETS

- **HTML** marks the **different parts of a document**, but it does not indicate how document content should be displayed by browsers

- For this reason, the exact **appearance of each page element** is described in a separate document known as a **style sheet**

HYPERTEXT MARKUP LANGUAGE (HTML)

- ***Describes*** the content and structure of information on a web page
  - not the same as the *presentation* (appearance on screen)
- It is not a programming language, it is a markup language
- A markup language is a set of markup tags :
  - example : <title>…</title>   <nav>…</nav> <p>…</p>
- Text contents are surrounded with opening and closing tags
  - example: *<p>*This is a paragraph*</p>*

HISTORY OF HTML

- 1990
  - Tim Berbers proposed an Internet based hypertext Systems
- 1991-2000
  - Hypertext Markup Language (HTML) draft published
  - HTML 2.0, 3.2, 4.0, 4.0.1
- 2001-2011
  - XHTML 1.1, 2.0
  - HTML 5 Draft
- Oct 2014
  - HTML 5 Finalised

HTML 5

- HTML 5 is a cooperation between the W3C and WHATWG(Web Hypertext Application Technology Working Group)

- Some rules for HTML5 were established:
  - New features should be based on HTML, CSS, DOM, and JavaScript
  - Reduce the need for external plugins (like Flash)
  - Better error handling
  - More markup to replace scripting
  - HTML5 should be device independent
  - The development process should be visible to the public

BROWSER SUPPORT FOR HTML 5

- HTML5 has been finalised (official standard) in Oct 2014

- Currently, no one browser have full HTML5 support

- But all major browsers (Safari, Chrome, Firefox, Opera, Internet Explorer) continue to add new HTML5 features to their latest versions.

- Go to http://html5test.com to test how well your browser support HTML 5

- In this module, we will be using Google Chrome

BASIC HTML STRUCTURE

```html
<!DOCTYPE html>
<html>
    <head>
        <title>A Simple Example</title>
    </head>
    <body>
        <p>IT1209 Web Applications Development.</p>
    </body>
</html>
```

XHTML

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
       "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html>
    <head>
        <title>A Simple Example</title>
    </head>
    <body>
        <p>IT1209 Web Applications Development.</p>
    </body>
</html>
```

URL

A Simple Example - Windows Internet Explorer provided by Nanyang Polytechnic

E:\IT1209\2011S1\lecture\demo\simpleEg.html   ▼ | ✦ | ✕ | ⓑ Bing

File   Edit   View   Favorites   Tools   Help

✕   🌐 Convert   ▼   📄 Select

⭐ Favorites | 🌐 💡 Suggested Sites ▼   🌐 Web Slice Gallery ▼

Title

🌐 A Simple Example | 🏠 ▼ 🔊 ▼ 🖃 ▼ 🖨 ▼ Page

IT1209 Web Applications Development.

Done   💻 Computer | Protected Mode: Off
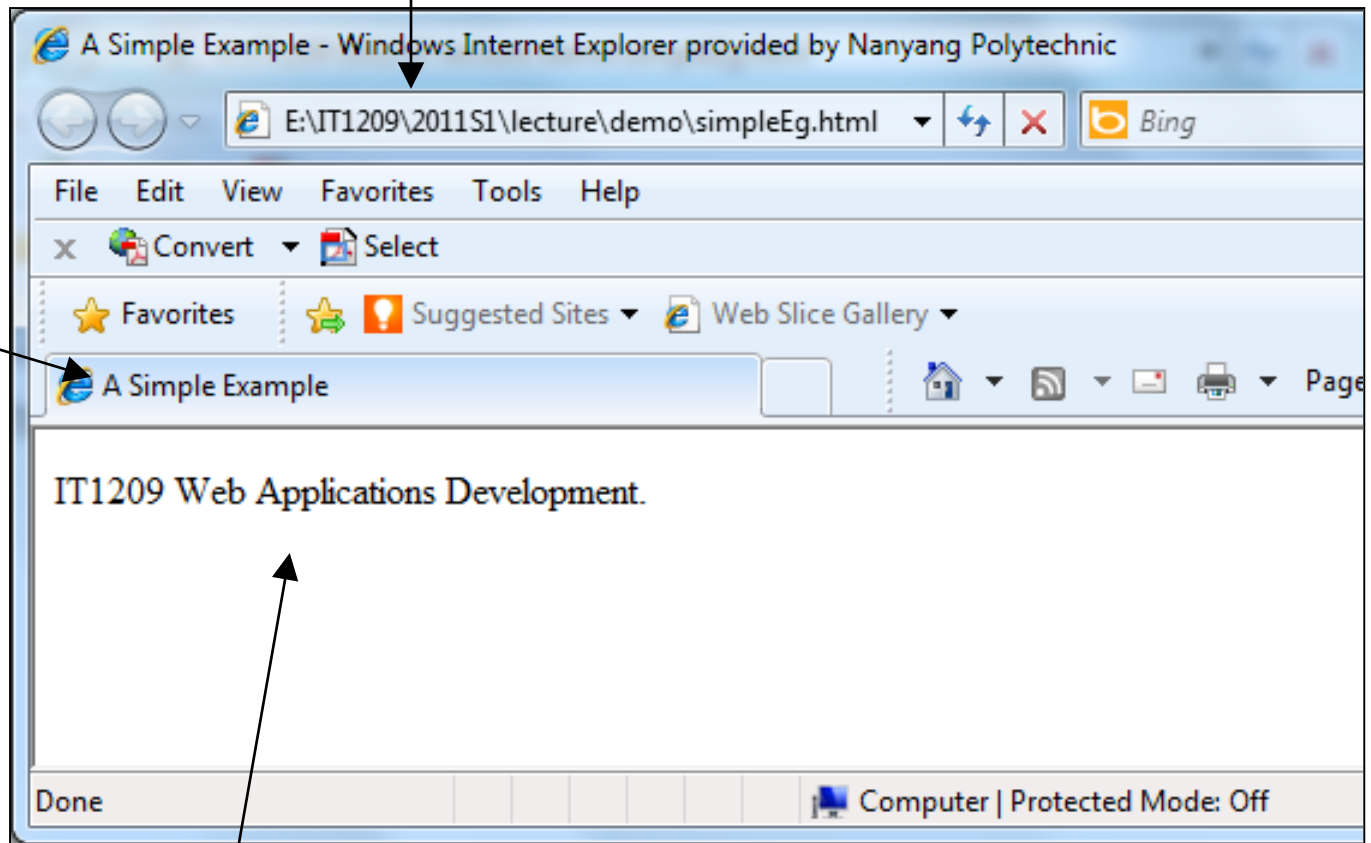
The content of the **Body** is displayed in the browser

BASIC HTML STRUCTURE

- The **doctype** declaration specifies that the document is written in HTML

- An HTML document is divided into two main sections: the **head** and the **body**

- **Head**:
  - **Describes** the page
  - Contains **information about the document**, for example the document title or the keywords
  - The content of the head element is **not displayed** within the Web page

- **Body**:
  - Contains all of the **content to appear** on the Web page
  - Contains code that tells the browser how to render the content

BASIC HTML STRUCTURE

- A HTML document is saved into a file ending with extension **.html or .htm**

- HTML 5 is **case-insensitive**
  <html>…..</html>
  <HTML>…..</HTML>
  - the most common convention is to stick with **lowercase**

HTML ELEMENTS

- An HTML document is composed of **elements** that represent distinct items in the Web page, such as a paragraph, the page heading, or even the entire body of the page itself

- Elements are marked by one or more **tags**

- A **two-sided tag** is a tag that contains some document content. General syntax for a two-sided tag:

<p align="center"><element>content</element></p>

HTML ELEMENTS

Element = Opening Tag + Content + Closing Tag

- ⊕ Example: (lower case, properly closed)
  - − \<p\>This is a paragraph \</p\>

  Opening Tag

  closing tag

- ⊕ Example: (properly nested)
  - ▪ \<div\>
      \<p\>This is a paragraph \</p\>
    \</div\>

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TYPES OF ELEMENTS

- **Inline** element

  - Such as individual words or phrases within a paragraph.

  - It will **not start** from a **new line**.

  - e.g. … (enclose a phrase)
      <a>…. (indicate a link)

TYPES OF ELEMENTS

- **Block** element

  - It appears as an individual block.

  - It will **start** from a **new line**.

  - e.g. <div>…</div> (indicate a section)
    <h1>…</h1> (indicate a heading)
    <p>…</p> (indicate a paragraph)

TYPES OF ELEMENTS

- **Empty** element

  - it contains **no value/content**

  - It may contain attributes

  - e.g.
  (indicate a line break)
        <wbr/> (to indicate word Break Opportunity)
        <hr/> (to separate content or a shift of topic)

PAGE TITLE: <TITLE>

- describes the title of the web page

- <title>This is my blog.</title>

- placed within the head of the page

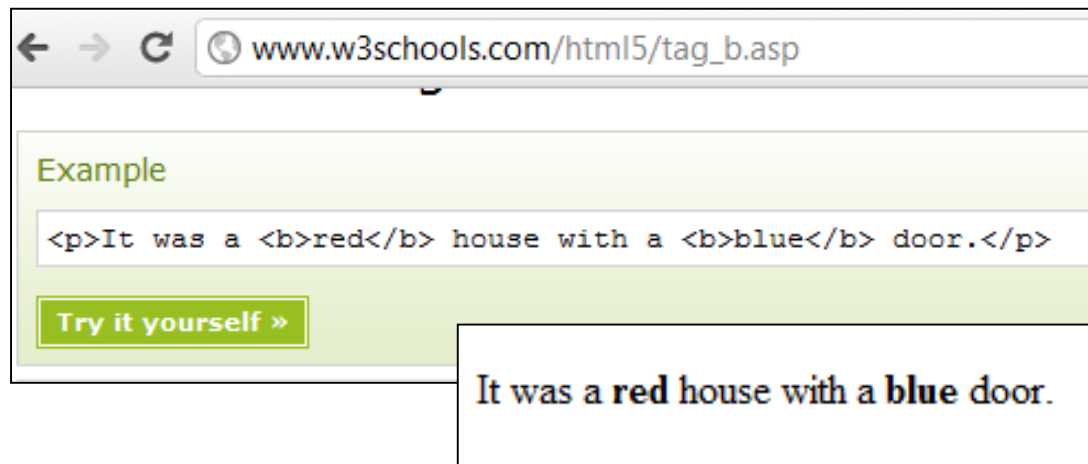- displayed in the web browser's title bar and when bookmarking the page

PARAGRAPH: <P>

- paragraphs of text (block)

- placed within the body of the page

- <p>This is my first html page.</p>

- more paragraph examples

HEADINGS: <H1>, <H2>, ..., <H6>

- headings to separate major areas of the page (block)

- <h3>My Educational Background</h3>

- more heading examples

BOLD TEXT: <B>

- The <b> tag specifies bold text

- To be used as last resort

ITALICIZE TEXT: <I>

- The <i> tag gives text more emphasis

Example

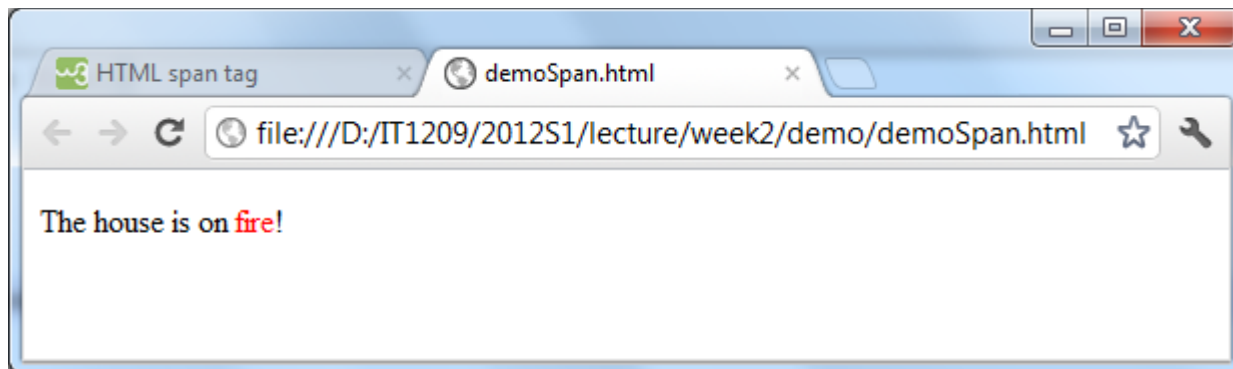`<p>He named his car <i>The lightning</i>, because it was very fast.</p>`

Try it yourself »

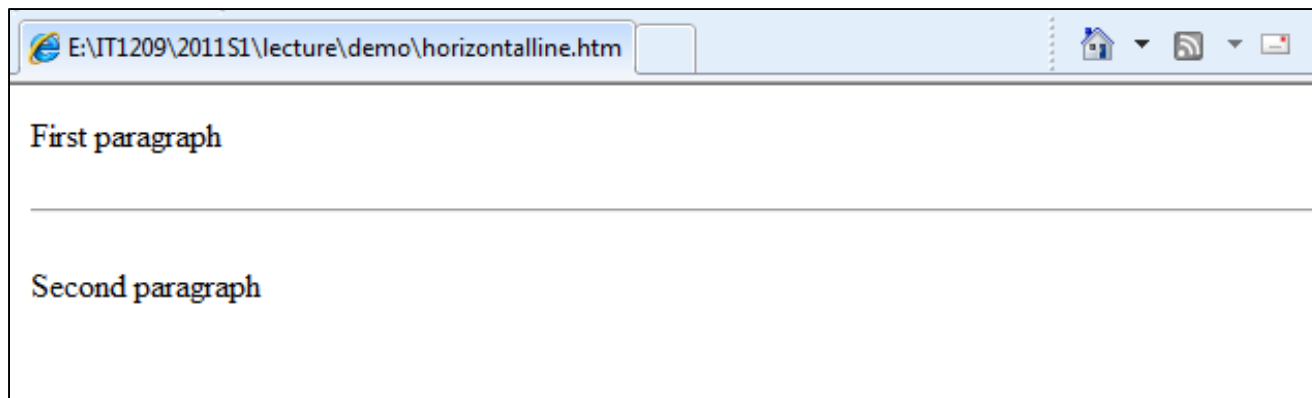He named his car *The lightning*, because it was very fast.

SPAN : <SPAN>

- Used for grouping a section of text content(phrase)

- Commonly used solely to apply styles

```
<body>
<p>The house is on <span style="color:red">fire</span>!</p>
<body>
```
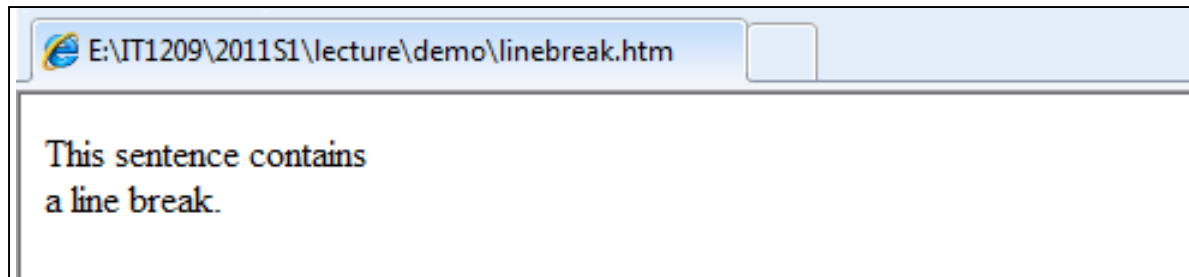

The house is on fire!

HORIZONTAL RULE: <HR>

- a horizontal line to visually separate sections of a page (block)

- <p>First paragraph</p><hr><p>Second paragraph</p>

LINE BREAK:

- inserts a single line break

- <p>This sentence contains
 a line break.</p>
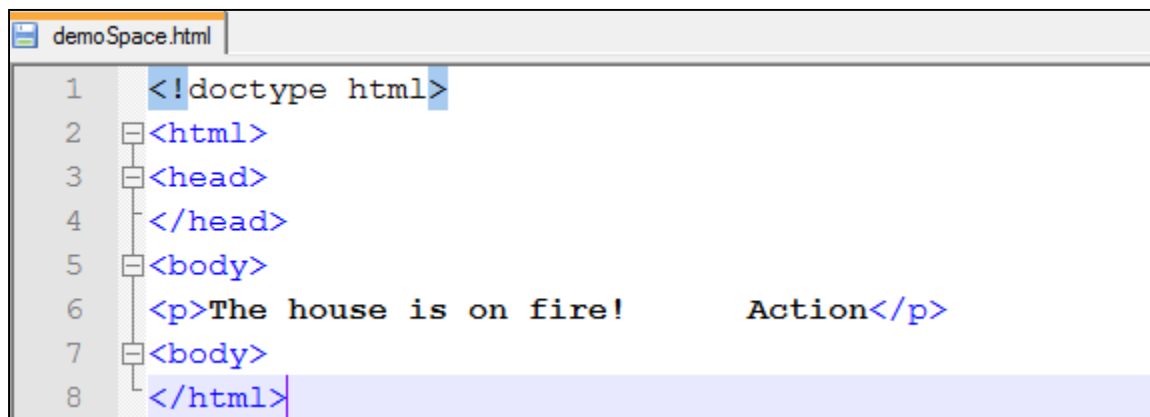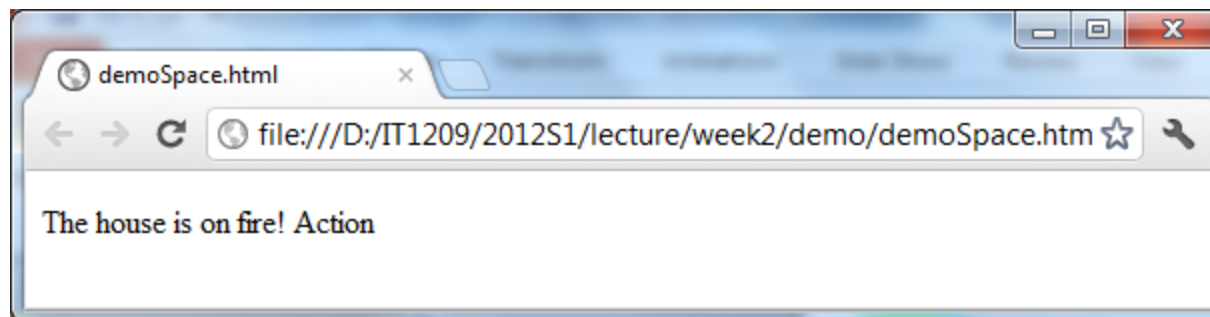
WORD BREAK OPPORTUNITY : <WBR>

- Specifies where a browser may add a line break if needed

- May use it for long words that might present problems if they appear near end of a line and cause awkward spacing

INSERT A SPACE

- Browsers will ignore any extra space in your HTML code

```
demoSpace.html
1    <!doctype html>
2    <html>
3    <head>
4    </head>
5    <body>
6    <p>The house is on fire!      Action</p>
7    <body>
8    </html>
```

```
demoSpace.html    ×
← → C  ⊙ file:///D:/IT1209/2012S1/lecture/week2/demo/demoSpace.htm ☆ 🔧

The house is on fire! Action
```

SPECIAL CHARACTERS

- Some characters are reserved in HTML

- Not possible to use the less than (<) or greater than (>) signs in your text, because the browser will mix them with tags

- To display reserved characters, use character entities in the HTML source code

- Format of character entity:
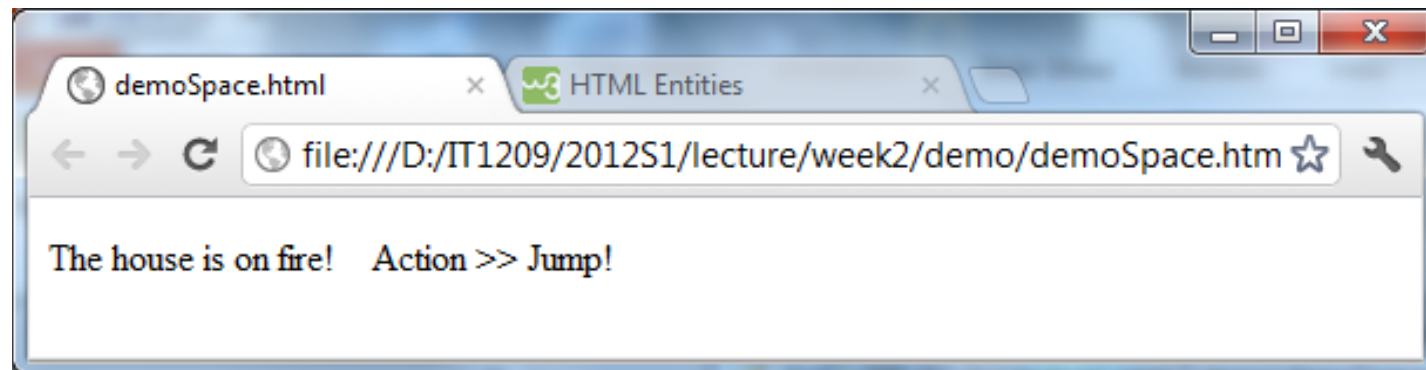 *&entity_name*; or   *&#entity_number*;

SPECIAL CHARACTERS

Example of Special Characters

Character	Description	Entity Name	Entity No.
	non-breaking space		
<	less than	<	<
>	greater than	>	>
&	Ampersand	&	&
"	quotation mark	"	"
'	apostrophe	'	'
©	copyright	©	©
¢	cent	¢	¢

SPECIAL CHARACTERS

```
<body>
<p>The house is on fire!    Action &gt;&#62; Jump!</p>
<body>
```

demoSpace.html   HTML Entities

file:///D:/IT1209/2012S1/lecture/week2/demo/demoSpace.htm

The house is on fire!   Action >> Jump!

INSERT A COMMENT:<!-- -- >

- Comment tag is used to insert comments in the source code.

- Comments do not appear when browser displays the web page

```
<body>
<!-- This is my first web page -->
<p>The house is on fire!</p>
<body>
```

ADDING ATTRIBUTES TO AN ELEMENT

Attribute provides more details information pertaining to the element it belongs to.

- Example: (attribute name be lower case, value must be quoted)
  - <p **id="first"**>This is a paragraph </p>

  Attribute name   Attribute value

- Example: (attribute must have value)
  - <option **selected="selected**">
    …..
    </option>

ADDING ATTRIBUTES TO AN ELEMENT

- Attributes are used to **set various properties** of an element

TWO IMPORTANT GLOBAL ATTRIBUTES

- id

    - Every element in a web page can be assigned a *unique id value* which uniquely identify itself in the web page. The analogy for this is your admin no in NYP.
    - For example:

        <h1 **id="mainHeading"**>Cyber bullying Crackdown</h1>

- class

    - Every element in a web page may belong to one or more classes. Elements with the *same class value* belongs to the same class. Class is especially useful in styling. More will be covered in later part of the module.
    - For example:

        <h1 id="mainHeading" **class="center"**>Cyber bullying Crackdown</h1>
        <h2 id="newsH2" **class="center_underline"**>Recent Tragedies</h2>