

HTML – Hypertext Markup Language

- What HTML is:
 - A method for describing the format of documents which allows them to be viewed on computer screens
 - HTML documents are displayed with web browsers

HTML – Hypertext Markup Language

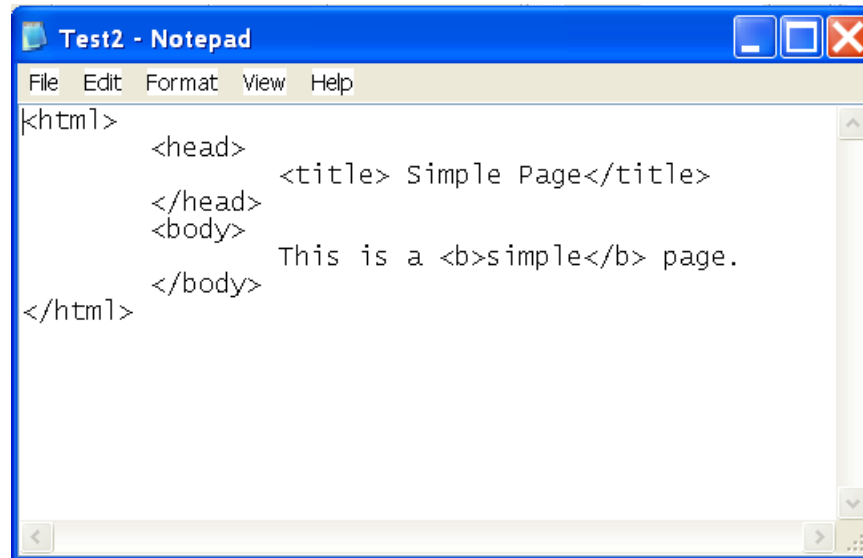
- What HTML is **NOT**:
 - A programming language
 - A data description language
 - Complicated!

Why Learn HTML instead of using Web Editors?

- Standards for HTML change constantly – web editors not always up to date
- Web editors do things their own ways – they take control
- HTML needed to integrate dynamic/interactive features (e.g. CGI's, Java etc.)
- Using HTML forces separation between content and formatting
- HTML is easy!

HTML developed in Notepad

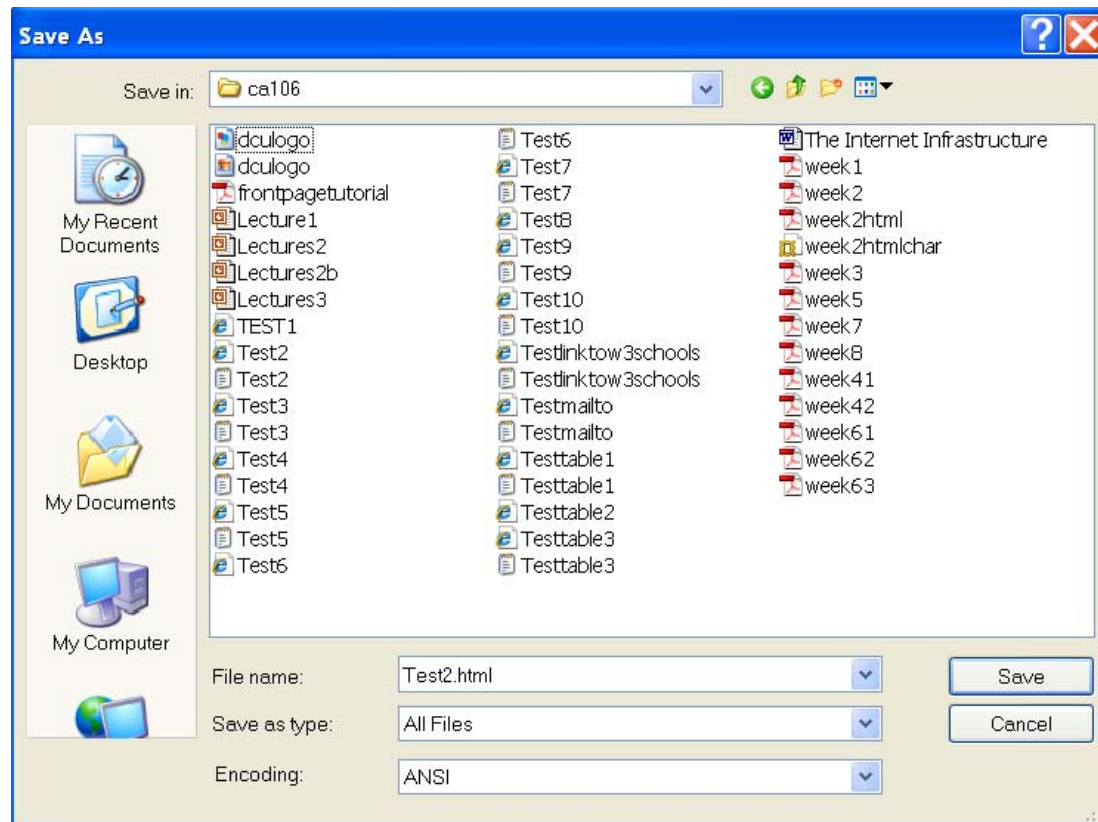
- Develop HTML page in Notepad

A screenshot of a Notepad window titled "Test2 - Notepad". The window has a blue title bar and a menu bar with "File", "Edit", "Format", "View", and "Help". The text area contains the following HTML code:

```
<html>  
  <head>  
    <title> Simple Page</title>  
  </head>  
  <body>  
    This is a <b>simple</b> page.  
  </body>  
</html>
```

Save the file

- Click **Save As** and ensure **Save as Type** is set to **All Files**. Add extension **htm** or **html** to file name (preferably lower case). Save in chosen location.

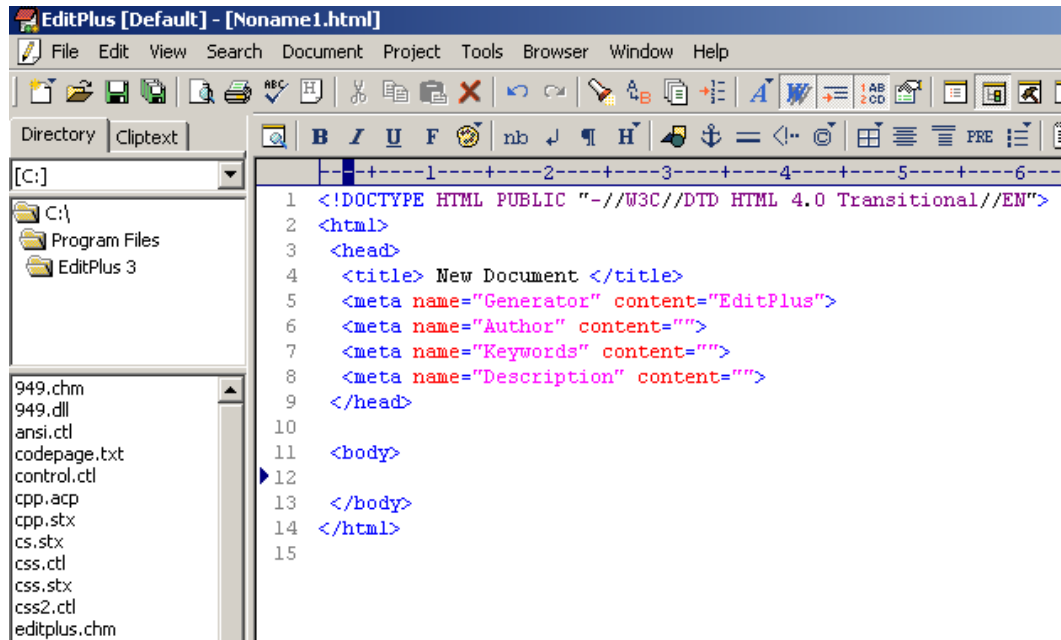


View the file

- Double click the file in Windows Explorer
- Alternatively you can open it directly in Explorer (or Firefox) choosing **Open** in the **File** menu.

Editplus instead of Notepad

- Editplus gives extra help. Open new document as **HTML Page**

A screenshot of the EditPlus software interface. The window title is "EditPlus [Default] - [Noname1.html]". The menu bar includes File, Edit, View, Search, Document, Project, Tools, Browser, Window, and Help. The toolbar contains various icons for file operations and editing. The left sidebar shows a directory tree for "C:\", with "Program Files" and "EditPlus 3" visible. Below that is a list of files including "949.chm", "949.dll", "ansi.ctl", "codepage.txt", "control.ctl", "cpp.acp", "cpp.stx", "cs.stx", "css.ctl", "css.stx", "css2.ctl", and "editplus.chm". The main editing area displays a new HTML document with the following code:

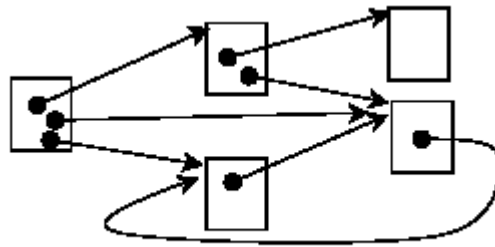
```
1 <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">
2 <html>
3 <head>
4 <title> New Document </title>
5 <meta name="Generator" content="EditPlus">
6 <meta name="Author" content="">
7 <meta name="Keywords" content="">
8 <meta name="Description" content="">
9 </head>
10
11 <body>
12
13 </body>
14 </html>
15
```

Hypertext and Hypermedia

- **Hypertext** – all information textual
- **Hypermedia** – information can be
 - Text
 - Pictures
 - Sounds
 - Moving images
 - Animated GIF's
 - Files for download
 -and so on

Hypertext and Hypermedia

- Hypertext and hypermedia information stored as set of documents, called **pages** with WWW
- Factual material is non-linear – pages can be connected via links



Retrieving your information

- A browser displays your chosen page and **links** to other related pages
- The browser enables us to follow the links and display the related pages

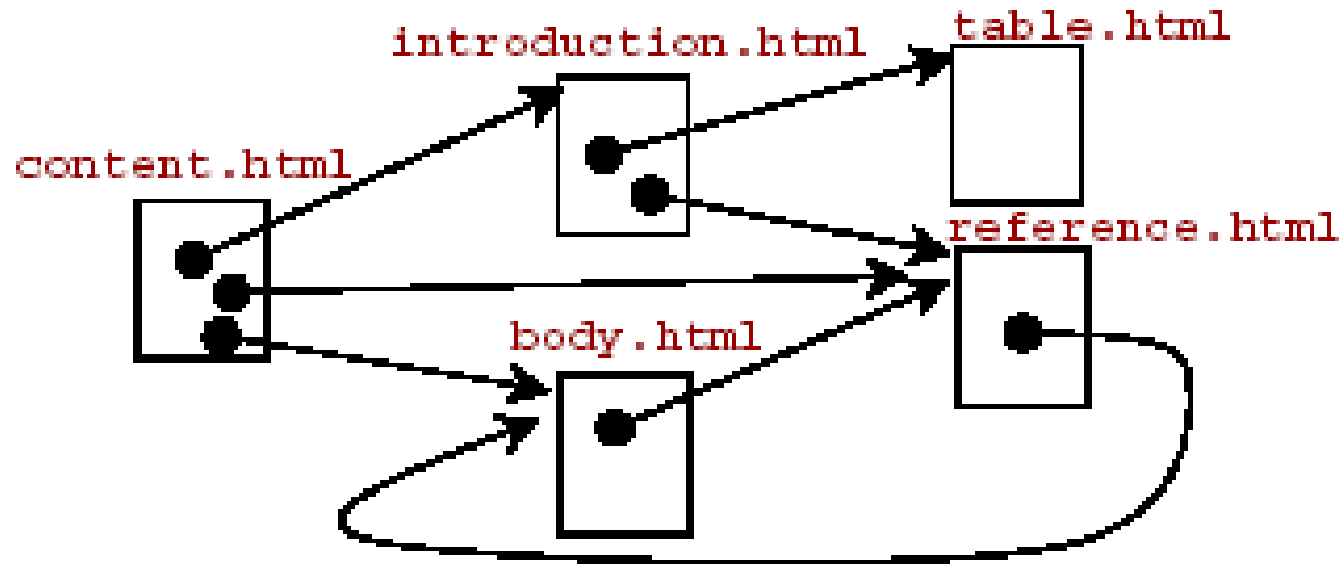
Displaying different formats

- MIME (Multipurpose Internet Mail Extension) – enables browsers to process file or launch appropriate external application
- Browsers can display limited range of data types (e.g. GIF, JPG, PNG) but not sound
- To process multimedia, browsers need **helper applications** (e.g. PKZIP, Windows Media Player) and **plug-ins** (small application that handle specific data types)

Where pages reside

- Web pages residing on different computers retrieved via the Internet. Remote pages take longer to load.
- We will work with pages on same computer. Typically file has extension HTML. Double click on it to launch browser and display
- References within HTML files are names of other files

Typical Design



HTML

- WWW pages written in HTML
 - **Standard** format means all browsers can display information
 - **World Wide Web Consortium (W3C)** issues most widely accepted standard
- HTML is **markup language** can specify information without giving exact details (e.g. font sizes may not be specified)

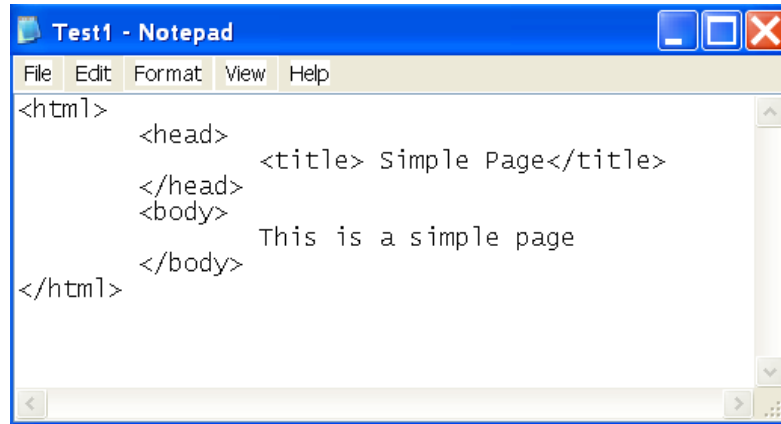
HTML pages

- Information to be displayed
- **Hypertext links**
- **Forms** – completed and returned to server
- **Programs** – interact with users

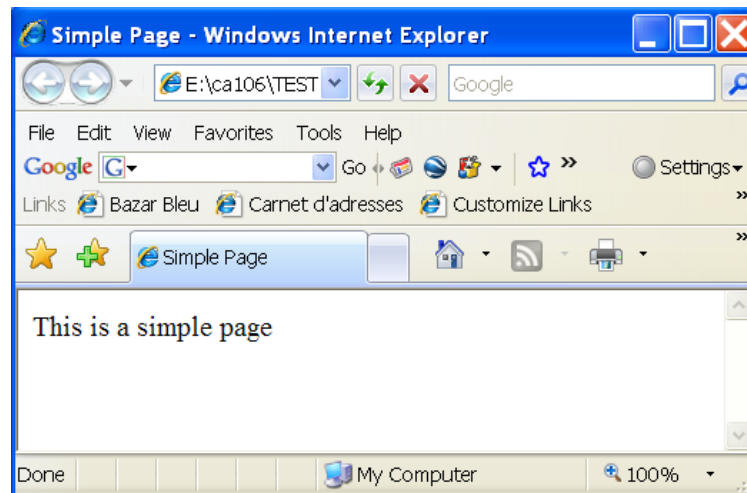
Simple HTML

- ASCII text (American Standard Code for Information Interchange) – each alphabetic/numeric/special character described by 7-bit binary number
 - Text to be displayed
 - Tags specifying format
- Browser formats and displays text
 - Multiple spaces and new lines ignored
 - Special codes for some special characters
 - $\frac{3}{4}$ ¾ © © & &
 - € € £ £ and so on

Simple HTML Page



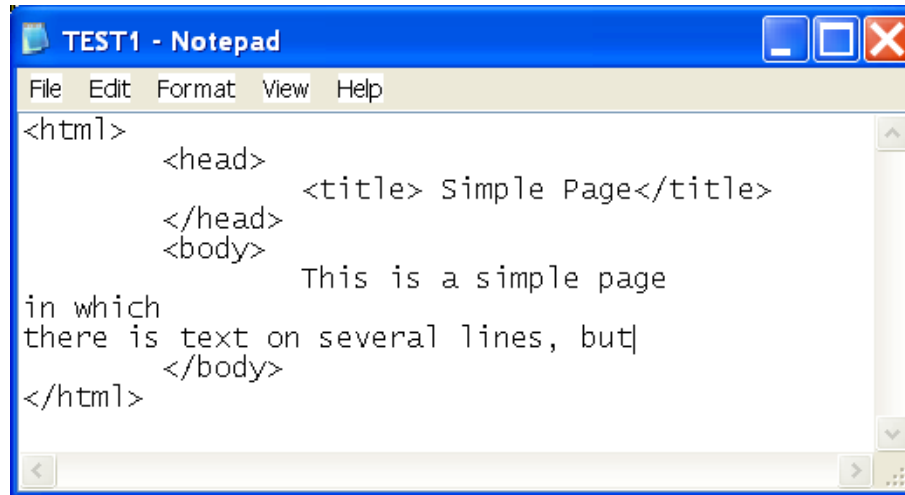
```
Test1 - Notepad
File Edit Format View Help
<html>
  <head>
    <title> Simple Page</title>
  </head>
  <body>
    This is a simple page
  </body>
</html>
```



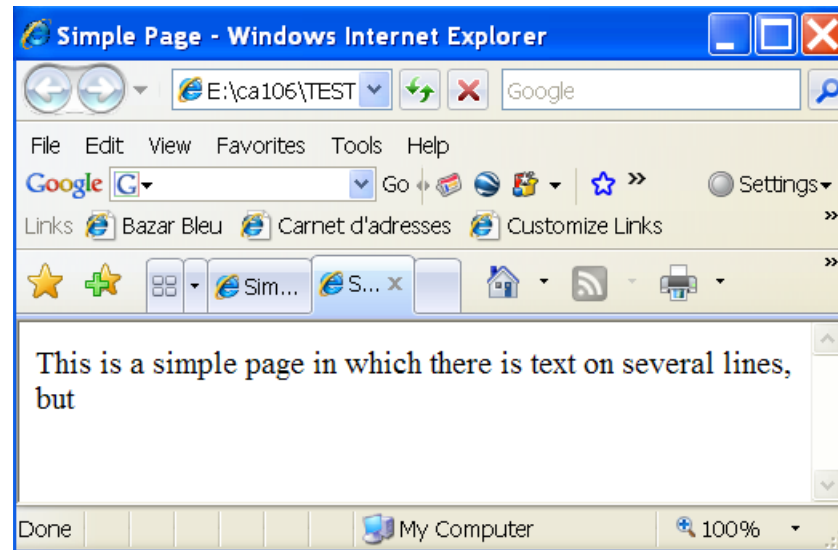
HTML page format

- Start with **<html>** and finish with **</html>**
- Between these tags:
 - **<head>** **</head>**
 - **<body>** **</body>**
- Tags often in pairs - **<tagname>** and **</tagname>**
- Tags can have attributes (sometimes called arguments or parameters) which appear between tag name and closing **>**.

Note – new lines ignored



```
TEST1 - Notepad
File Edit Format View Help
<html>
  <head>
    <title> Simple Page</title>
  </head>
  <body>
    This is a simple page
    in which
    there is text on several lines, but
  </body>
</html>
```



Basic Text Formatting

- Fonts
- Headings
- Paragraphs
- Carriage Returns
- Horizontal Rules

Text Formatting

- **Bold**
 - `This is bold` but this is not
- **Underline**
 - `<u> This is underlined</u>` but not this
- **Italic**
 - `<i> This is italic </i>` but not this
- **Preserving format (line breaks etc.) – pre-formatted**
 - `<pre> This will appear on
two lines</pre>`

Text Formatting

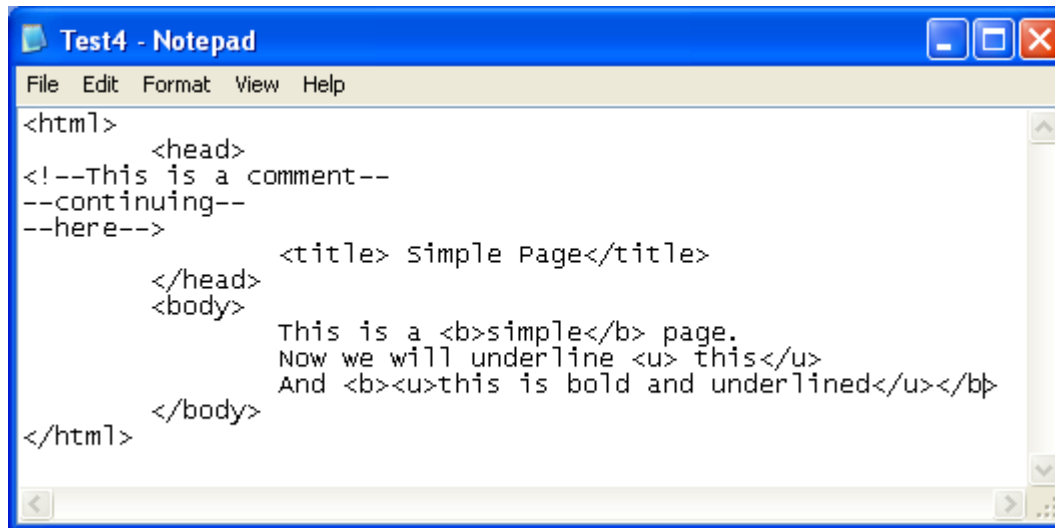
- Paragraph `<p> blah blah..... </p>`. Note: blank line usually inserted
- Carriage return (new line) `
` tag before text – no blank line inserted
- Horizontal rule element `<hr>` puts horizontal line across page

Commenting you HTML- necessary with advanced HTML

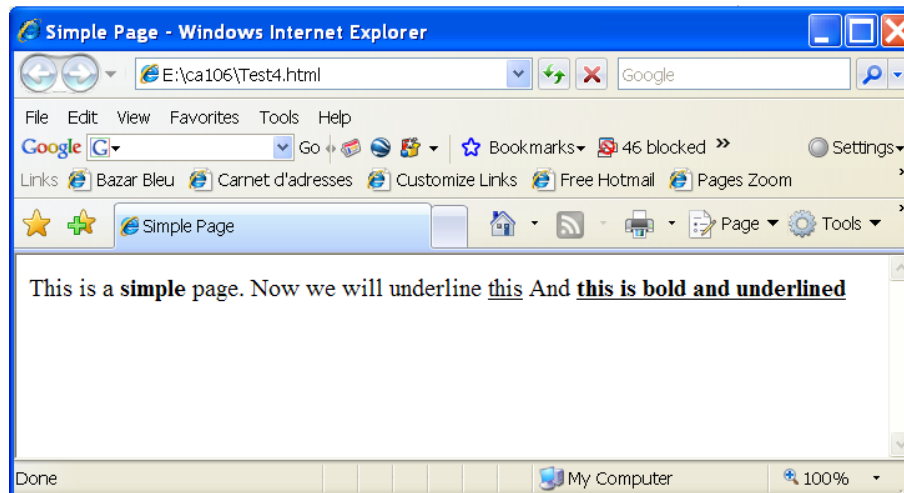
- Within the **head** tags – guidelines
 - Name of application
 - Description of purpose of code
 - Name of author
 - Date originally created
 - Version number
 - Copyright information
- Comment tags – can also appear in the body

```
<!--This is a comment --  
--which continues --  
--here-->
```

Examples of Formatting



```
Test4 - Notepad
File Edit Format View Help
<html>
  <head>
<!--This is a comment--
--continuing--
--here-->
    <title> simple Page</title>
  </head>
  <body>
    This is a <b>simple</b> page.
    Now we will underline <u> this</u>
    And <b><u>this is bold and underlined</u></b>
  </body>
</html>
```

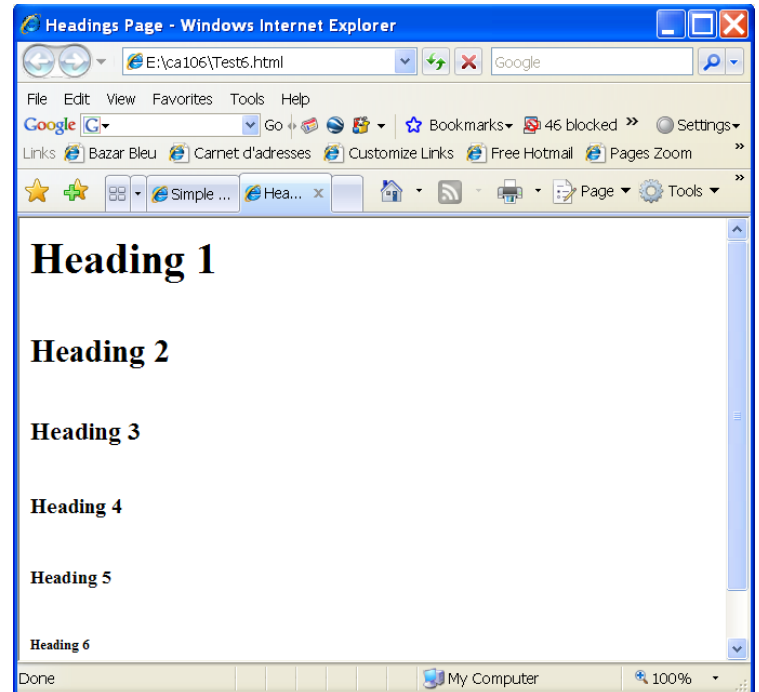


Headings

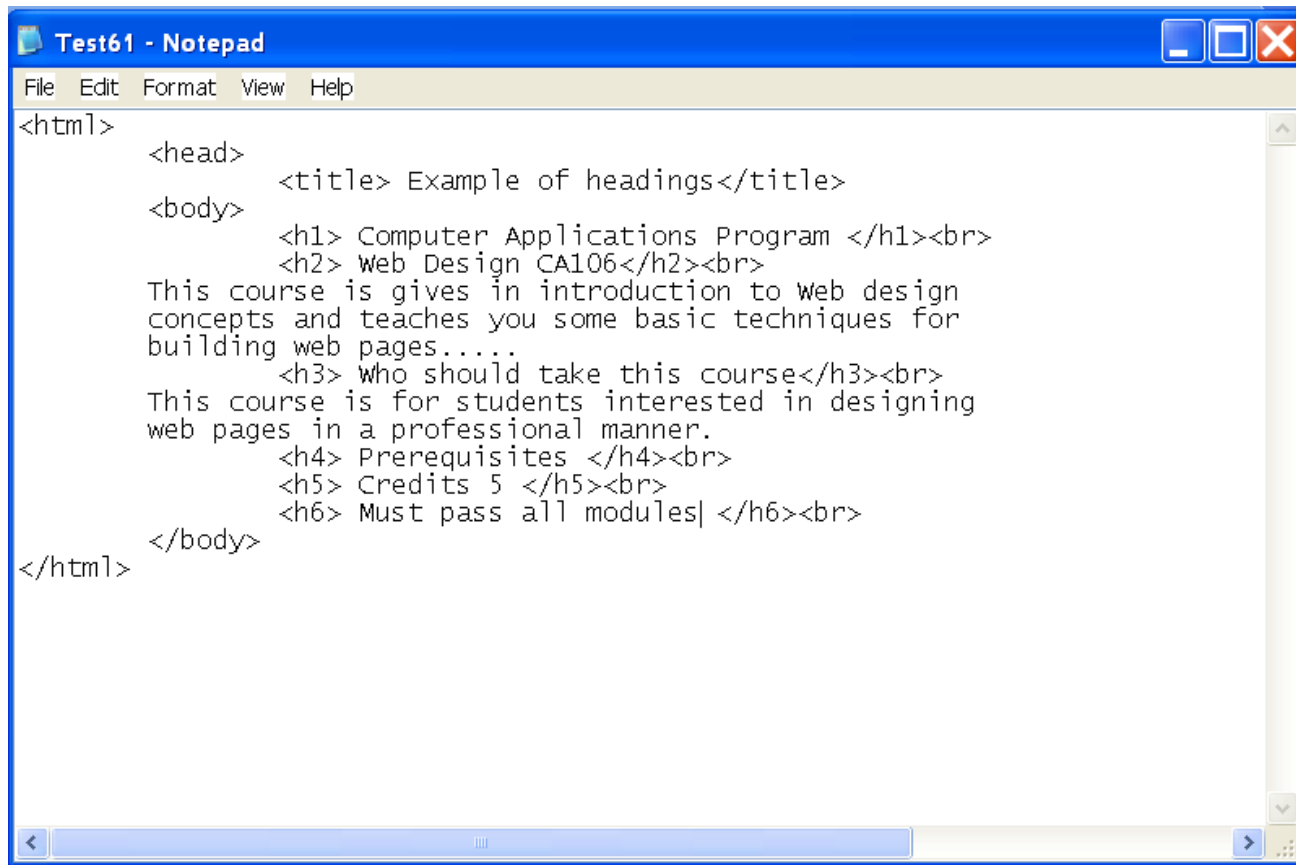
- Levels of headings – e.g. Chapter, Main Section, Sub-Section etc.
- General documents – use different font sizes or emphasis (bold)
- HTML has six levels – Level 1 more significant than Level 2 and so on
- Exact font size and emphasis determined by browser
- Headings placed anywhere inside BODY of web page

Headings

```
Test6 - Notepad
File Edit Format View Help
<html>
  <head>
  <!--This is a comment--
  --continuing--
  --here-->
    <title> Headings Page</title>
  </head>
  <body>
    <h1> Heading 1 </h1><br>
    <h2> Heading 2 </h2><br>
    <h3> Heading 3 </h3><br>
    <h4> Heading 4 </h4><br>
    <h5> Heading 5 </h5><br>
    <h6> Heading 6 </h6><br>
  </body>
</html>
```



Example of use of headings



```
<html>
  <head>
    <title> Example of headings</title>
  </head>
  <body>
    <h1> Computer Applications Program </h1><br>
    <h2> Web Design CA106</h2><br>
    This course is gives in introduction to Web design
    concepts and teaches you some basic techniques for
    building web pages.....
    <h3> who should take this course</h3><br>
    This course is for students interested in designing
    web pages in a professional manner.
    <h4> Prerequisites </h4><br>
    <h5> Credits 5 </h5><br>
    <h6> Must pass all modules| </h6><br>
  </body>
</html>
```

Example of headings - Windows Internet Explorer

E:\ca106\Test6.1.html

File Edit View Favorites Tools Help

Google G Go Bookmarks 46 blocked Check AutoLink AutoFill Settings

Links Bazar Bleu Carnet d'adresses Customize Links Free Hotmail Pages Zoom QuiQuoiOu Windows

Example of headings

Computer Applications Program

Web Design CA106

This course is gives in introduction to Web design concepts and teaches you some basic techniques for building web pages.....

Who should take this course

This course is for students interested in designing web pages in a professional manner.

Prerequisites

Credits 5

Must pass all modules

Done My Computer 100%

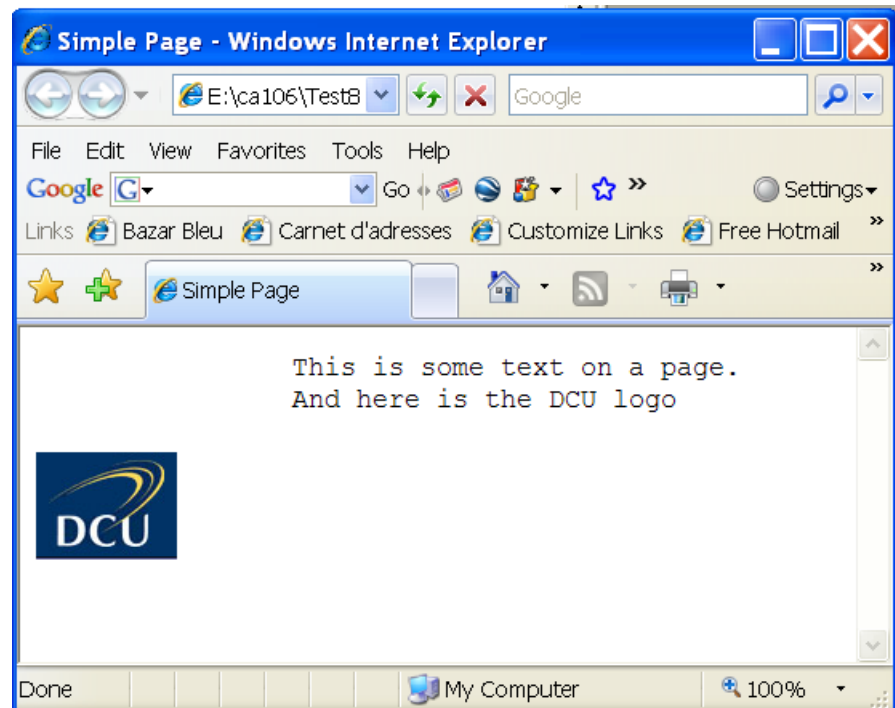
Exercise I

- Try typing the previous examples of HTML using Notepad (or Editplus)
- View these pages in a browser
- You can also view the code of most web pages using your browser
 - Right click on page to get a popup menu, and choose **View Source**
- Try creating some simple HTML pages of your own

Images

- HTML pages consist of ASCII text
- Include non-text information using tags
- For graphic information use **** tag
- Use attribute to specify file containing image – note file type and location

```
Test8 - Notepad
File Edit Format View Help
<html>
  <head>
<!--This is a comment--
--continuing--
--here-->
    <title> simple Page</title>
  </head>
  <body>
    <pre>
      This is some text on a page.
      And here is the DCU logo</pre>
    
  </body>
</html>
```



Hypertext Links

- Used within a page to reference another page
- Specify an **anchor element**
 - Tag `<a>` which has attribute specifying the referenced page (href)
 - Text and/or image selected to cause link to be followed
 - Tag ``


Hypertext Links Syntax

```
<a> href = "index.html" text </a>
```

file name of referenced page

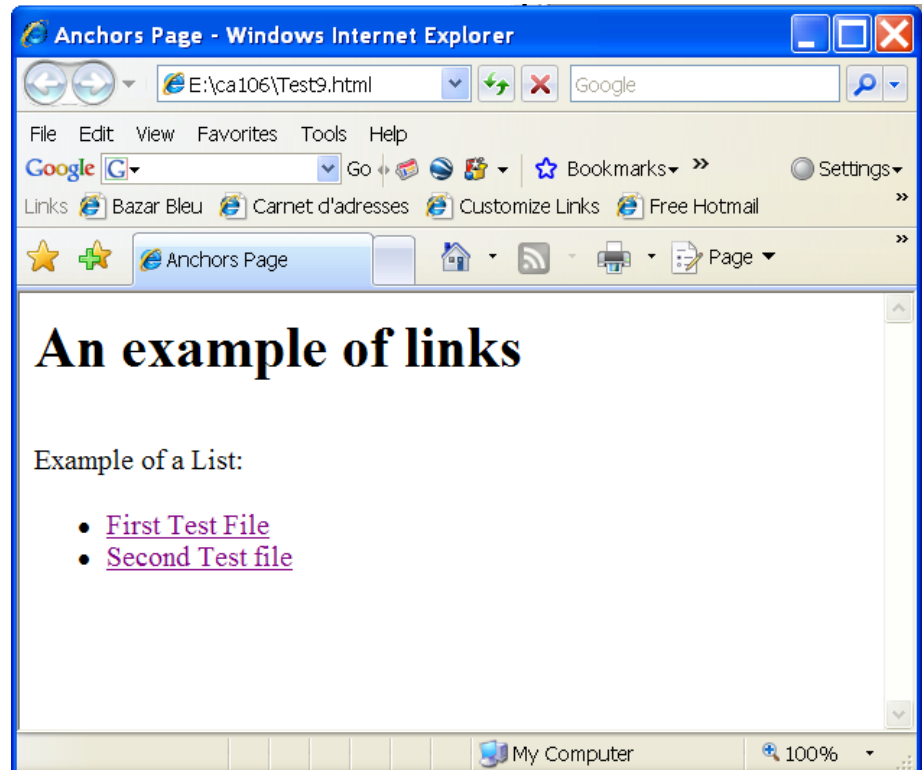


Selected text to be
displayed for this link



Note: Here it is assumed that the file is in the same folder as the file being viewed. It could be in a different folder or on a different computer; the location is specified in reference.

```
Test9 - Notepad
File Edit Format View Help
<html>
  <head>
<!--This is a comment--
--continuing--
--here-->
    <title> Anchors Page</title>
  </head>
  <body>
    <h1> An example of links </h1><br>
    Example of a List:
    <ul>
    <li><a href="TEST1.html"> First Test File</a>
    <li><a href="Test2.html"> Second Test file</a>
    </ul>
```



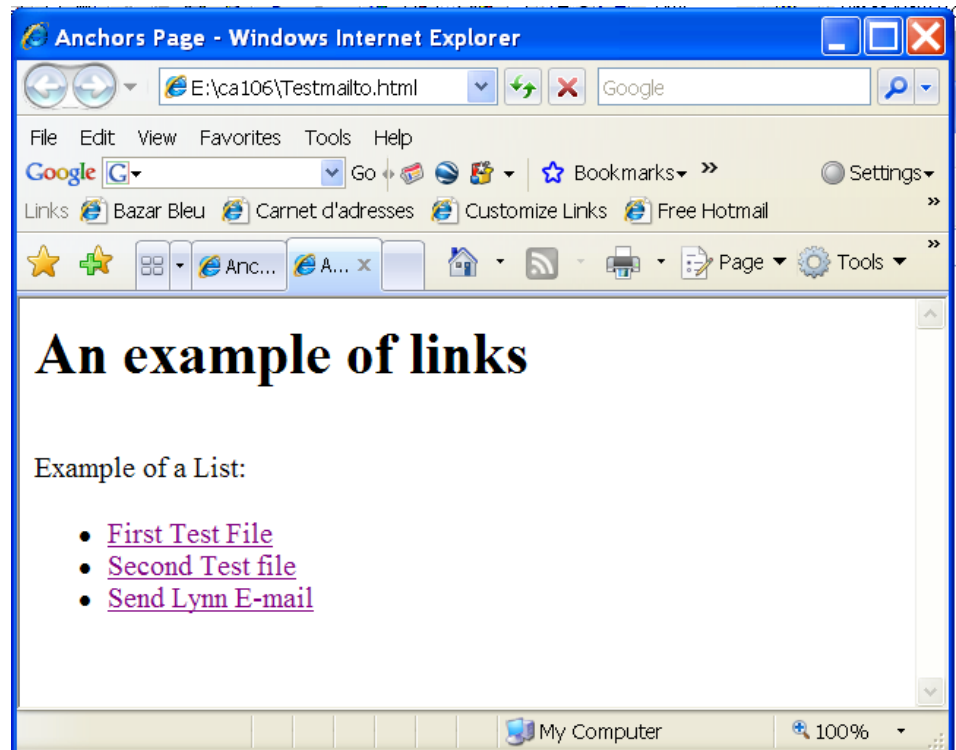
Types of Hyperlinks

- Absolute URL: links to page on different Web Server
- Relative URL: links to page on same Web Server
- Named Anchor: links to a different location in the same web page
 - Named Anchor used to help navigate through the same page e.g. Table of Contents

Examples of Hyperlinks

- Example in file Testnamedanchors.html
- Note: Named Anchors can also be absolute (i.e. refer to sections of other pages)
- **Mailto:** sets up link to enable reader to send e-mail

```
Testmailto - Notepad
File Edit Format View Help
<html>
  <head>
<!--This is a comment--
--continuing--
--here-->
    <title> Anchors Page</title>
  </head>
  <body>
    <h1> An example of links </h1><br>
    Example of a List:
    <ul>
    <li><a href="TEST1.html"> First Test File</a>
    <li><a href="Test2.html"> Second Test file</a>
    <li><a href="mailto:Lynn.Killen@comuting.dcu.ie">Send Lynn E-mail</a>
    </ul>
  </body>
</html>
```



Link to www.w3schools.com

```
Testlinktow3schools - Notepad
File Edit Format Help
<html>
  <head>
<!--This is a comment--
--continuing--
--here-->
    <title> Anchors Page</title>
  </head>
  <body>
    <h1> An example of links </h1><br>
    Example of a List:
    <ul>
    <li><a href="TEST1.html"> First Test File</a>
    <li><a href="Test2.html"> Second Test file</a>
    <li><a href="http://www.w3schools.com/">visit w3schools!</a>
    </ul>
  </body>
</html>
```

