



# **COMP 4021**

# **Internet Computing**

## **HTML**

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# HTML

- **HTML =Hypertext Mark-up Language**
  - **HTML is a markup language (or tagging language)**
  - **A tag indicates what an object is but not how it is displayed**
  - **Separation of content and display style**

```
<h1>Internet Computer</h1>
```

```
<p>The objectives of COMP 4021 are:
```

```
<ul>
```

```
    <li> Objective1: ... </li>
```

```
    <li> Objective2: ... </li>
```

```
</ul></p>
```

# Historical Overview

- First there was HTML
- Then there was HTML with CSS (=style sheets)
- Then there was XML (which is not the same as HTML)
- Then there was XHTML(=HTML, using XML style)
- most recently: HTML 5 ('x' is dropped from the name)
- Now, W3C uses the standard name "HTML" to refer to the language (no "5" or "x" attached)

# Basic HTML Page Structure

**<html>**

**<head>**

**<title>Title of the web page goes here</title>**

**</head>**

**<body>**

***...HTML tags go here...***

**</body>**

**</html>**

- You may find some older pages using `<xhtml>..</xhtml>` instead of `<html>..</html>` but these days we stick to `<html>..</html>`
- With 'old style' HTML, some tags/sections could be omitted and the browser would still display something appropriate – this is considered to be bad
- These days you need to do everything 'properly'
- For example, if you start a tag, you must finish it, and so on

# HTML Tags

- HTML tags need matching start and end tags
- Basic idea: `<html_tag>text</html_tag>`
- Now with XHTML must have matching case; (usually lower case), so can't do this:

`<p>paragraph text</P>`

- Some tags don't have an end tag, i.e.

`<br />`

`<hr />`

 `/>` means 'end of the command'

# Headers

- Headers help indicate document structure
- Default web page display shown here

**`<h1>Header 1</h1>`**

**`<h2>Header 2</h2>`**

**`<h3>Header 3</h3>`**

**`<h4>Header 4</h4>`**

**`<h5>Header 5</h5>`**

**`<h6>Header 6</h6>`**

# HTML Text

- Examples of simple HTML text formatting:

This is `<b>bold</b>`

This is `<i>italic</i>`

This is `<u>underline</u>`|

This is `<tt>text</tt>` (fixed width font)

This is `<big>big</big>`

This is `<small>small</small>`

This is `<strike>strike</strike>`

This is `<sub>`Subscript`</sub>`

This is `<sup>`Superscript`</sup>`

# Special Characters

- Because < and > are used by HTML for denoting tags, special methods are required to visually generate these two characters, as well as other special characters

Character	HTML Code
non-breaking space (meaning it won't get shrunk)	&nbsp;
&	&amp;
<	&lt;
>	&gt;
"	&quot;
®	&reg;
©	&copy;
¼	&frac 14;
½	&frac 12;
±	&plusmn;
÷	&divide;



# Using Colours on the Web

- For handling colours on the web usually RGB or English words are used (this applies to all web display technologies, such as HTML, Flash, applets, and so on)
- For the RGB system a combination of some red plus some green plus some blue is used to create any colour
- For example: #FF8800 means maximum red, half green and no blue, to create one single colour, written in hexadecimal
- Examples:

```
<p style="color:green">green text!</p>
```

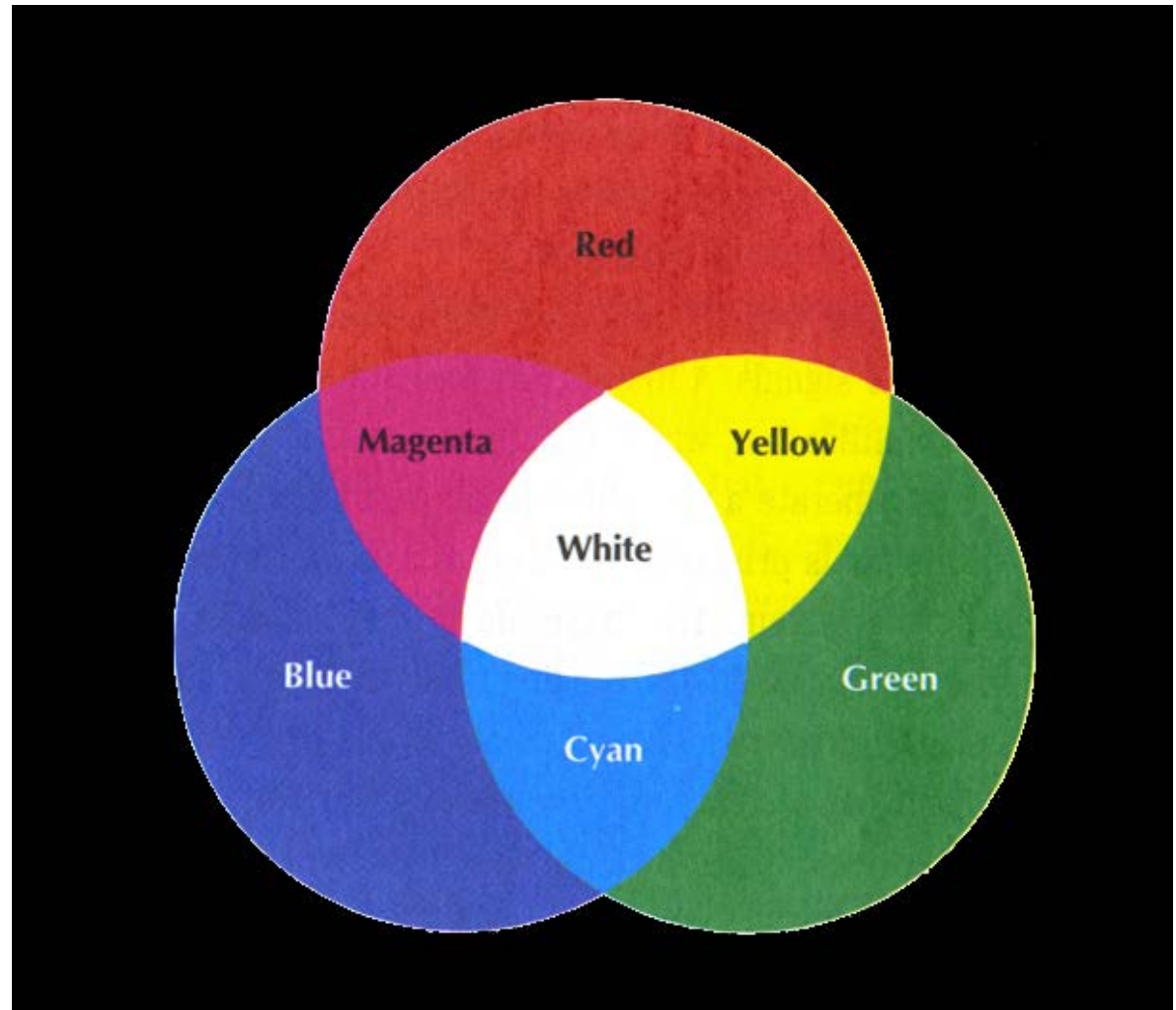
```
<p style="color:#00ff00">green text!</p>
```



red green blue




The diagram illustrates the breakdown of the hex code #00ff00. Three yellow brackets are positioned above the code: the first bracket is under '00', the second under 'ff', and the third under '00'. Three yellow lines extend downwards from these brackets to the words 'red', 'green', and 'blue' respectively, indicating that the first two digits represent red, the next two represent green, and the last two represent blue.

# RGB Colour



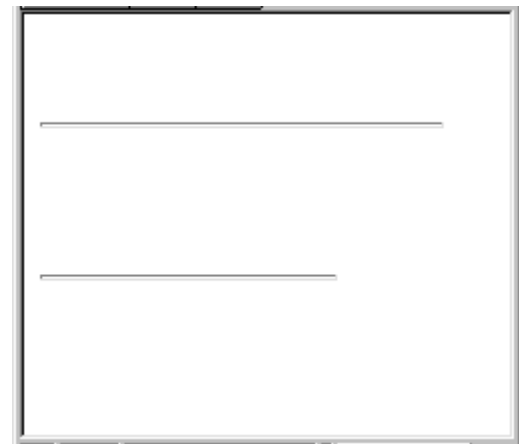
- ***RGB = Red Green Blue***
  - 000000 = black, FFFFFFFF = white

# Example Colours using RGB

<i>Name</i>	<i>Example</i>	<i>Hex code</i>		<i>Name</i>	<i>Example</i>	<i>Hex code</i>
black		#000000		silver		#C0C0C0
grey		#808080		white		#FFFFFF
maroon		#800000		red		#FF0000
purple		#800080		fuchsia		#FF00FF
green		#008000		lime		#00FF00
olive		#808000		yellow		#FFFF00
navy		#000080		blue		#0000FF
teal		#008080		aqua		#00FFFF

# Expressing Dimension in HTML

- For the relevant HTML tags which have some kind of length, the magnitude can usually be expressed in two ways
  - as a percentage of the length of the parent ‘thing’
  - as an exact pixel length
- For example, the horizontal rule tag `<hr />` shows a line across the screen
- Examples:
  - `<hr align="left" width="200">`
  - `<hr align="left" width="70%">`



# Tables

A simple table:

```
<table border columns=2>  
  <tr>  
    <td>first cell</td>  
    <td>second cell</td>  
  </tr>  
  <tr>  
    <td>third cell</td>  
    <td>fourth cell</td>  
  </tr>  
</table>
```

- Tables are the most common way to get a basic visual structure on a web page
- Using HTML lists and layers are two other ways

first cell	second cell
third cell	fourth cell

# HTML Lists

- Definition list

```
<dl>
<dt>definition term</dt>
<dd>definition data</dd>
</dl>
```

definition term  
definition data

- Unnumbered list

```
<ul>
<li>item 1</li>
<li>item 2</li>
</ul>
```

- item 1
  - item 2

- Ordered list

```
<ol>
<li>item 1</li>
<li>item 2</li>
</ol>
```

1. item 1
  2. item 2

# Absolute and Relative Links

- Example absolute link:

click `<a href="http://www.sitename.com/">here</a>`

- Example relative link:

- Links can point to a position within the *same* page
- Define a target reference (i.e., position) in the page:

`<h2 id="part5">Part 5 goes here</h2>`

- Clicking the following link will go to “part5” object:

go to `<a href="#part5">part 5</a>`

- Absolute + relative link:

- Access to a object within another page:

`http://www.sitename.com/pagename.html#part5`

# Take Home Message

- HTML is one of the GREAT inventions for information exchange and one of the cornerstones of the Web
- The power of tagging is amazingly powerful
  - Office documents are all based on HTML now
  - Clear and consistent syntax for defining “objects”
    - Object name/class: <h1 ...>, etc.
    - Object attributes: <h1 background=....>
  - Objects can be nested freely



# Take Home Message

- HTML is too big to remember; look up the web, e.g., search “HTML table” on Google or Bing
- Try to create a web page yourself:
  - Use a plain text editor to create an html page
  - Use an HTML Rich Text Editor (if you have an account on [blogspot.com](http://blogspot.com), you can create a post with an RTE)
  - Use WORD, “save as HTML”
- You are expected to remember the tags discussed in the lectures (html, body, list, table, anchor, etc.)
- Most browsers are very tolerant to HTML mistakes (they just ignore things they do not understand), but try to conform to standard (e.g., adding end tags)