# HyperText Markup Language (HTML)

- HTML (Hypertext Markup Language) is a markup language that allows users to create static web pages.

- An HTML file contains markup tags (elements). A tag is a text <u>instruction</u> that tells the web browser how to display the contents between the tags.

- An HTML file must have a .htm or .html file extension.

- The file can be created using a text editor.

# HTML Tags

- HTML tags are keywords surrounded by **angle brackets** like <html>

- HTML tags normally come in **pairs**.

- The first tag in a pair is the **start tag**, the second tag is the **end tag**.

# The general format of an HTML tag:

**<tagname attribute = "value">......</tagname>**

Start tag

tag content

End tag

- The **start tag** indicates the beginning of a command and the **end tag**, with a forward slash ( / ) inside it, indicates where that command should end.

- HTML tags are **not case sensitive**.

- HTML tags can have **attributes**.

- Attributes provide **additional information** about the tag to the browser.

- Attributes are always **specified in the start tag**.
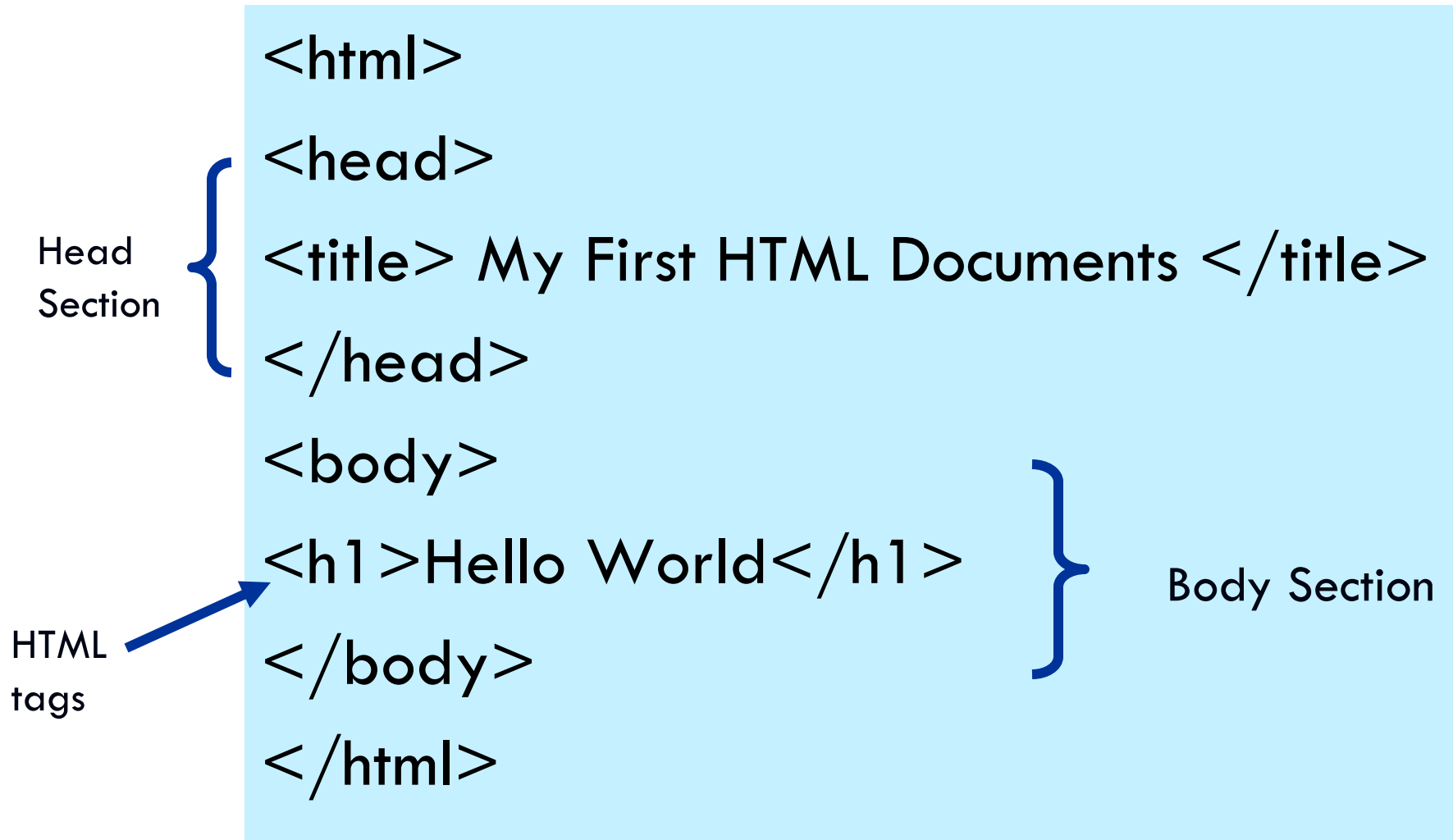
# Example:

**Start tag**

**Tag contents**

**End tag**

**<H1 align = "center">Hello World</H1>**

**Attribute**

**Attribute value**
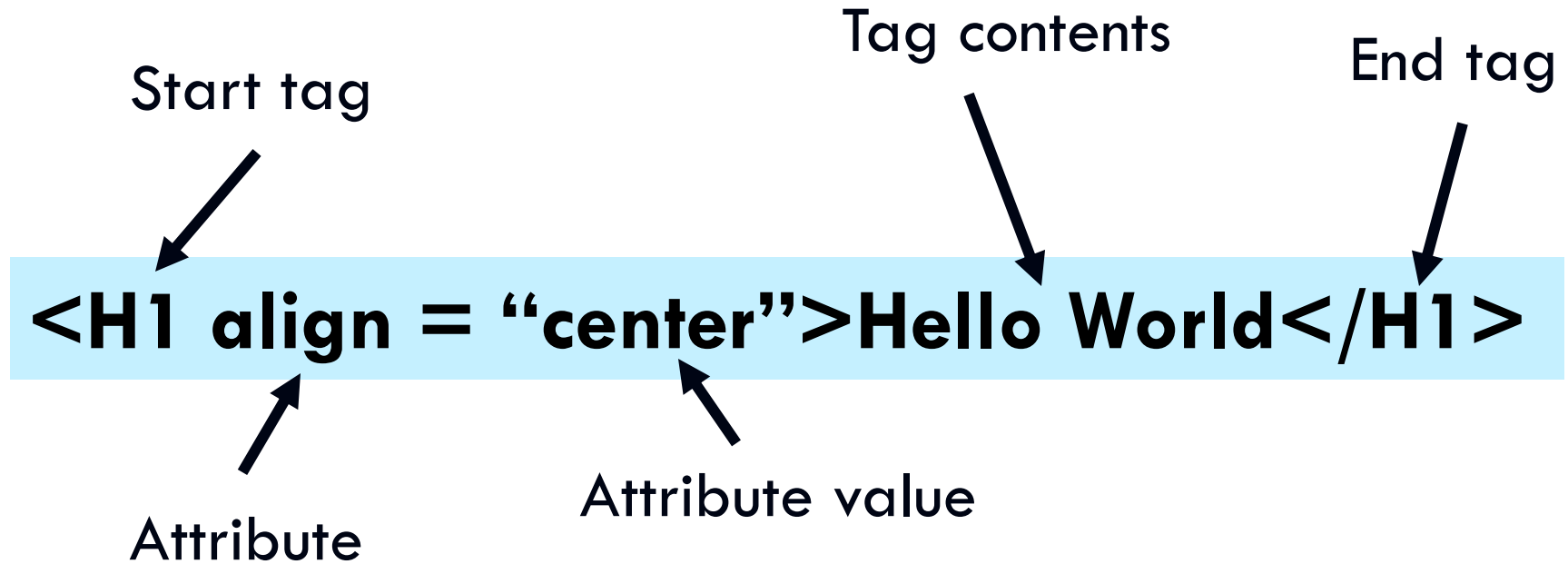
- Elements (tag) with <u>no tag content</u> are called <span style="color:red">empty tags</span>.

- An empty tag takes the following format:

  **<tagname attribute = "value" />**

# Basic Structure of an HTML Document

Head
Section

Body Section

HTML
tags

```
<html>
<head>
<title> My First HTML Documents </title>
</head>
<body>
<h1>Hello World</h1>
</body>
</html>
```

- HTML documents start with the <HTML> tag and ends with </HTML>.

- HTML documents are divided into two sections: the head and the body.

- The head section contains information about the document such as the title of the web page, information about the web page required for search engines, style sheets etc.

- The head section starts with the <HEAD> tag and ends with </HEAD>.

- Information contained in the head section is <u>not displayed</u> within the browser.

- The body section contains the contents of the web page.

- The body section starts with the <BODY> tag and ends with </BODY>.

# HTML Tags

# Tags used in the Head Section

- **\<title\>** - Defines the document title.

- **\<meta\>**

  - Provides meta-information about the web page, such as descriptions and keywords for search engines, refresh rates etc.

  - It has no end tag.

## Attributes:

| Attribute | Values | |
|---|---|---|
| http-equiv | refresh | For creating automatic jumps to other pages, setting refresh rates etc. |
| name | description keywords | For identifying extra information on the web page. |
| content | Some text | Adds extra information about the web page. It is associated with http-equiv or name attributes. |

# Examples:

1. ## Define keywords for search engines

   Define a set of key words to describe a web page created to give information about the Internet Technology module.

   <meta **name**="**keywords**" **content**="HTML, CSS, JavaScript" />

- **<u>Define a description of web page for search engines</u>**

  Give a description about a web page created

  to give information about the Internet

  Technology module.

```
<meta name="description"

content="Internet technology module will teach you

HTML, CSS, PHP and JavaScript" />
```

3. <u>Refreshing a web page</u>

Refresh the web page every 5 seconds

`<meta http-equiv="refresh" content="5" />`

4. <u>Redirecting a user to another web page</u>

Redirect the web page to www.nsbm.lk after 2 seconds.

```
<meta http-equiv="refresh" content="2;
url=http://www.nsbm.lk"/>
```

# Tags used in the Body Section

# Attributes of the <body> tag:

| Attribute | |
|---|---|
| background | Specifies a background image |
| bgcolor | Specifies a background color |
| text | Specifies the color of the text |

# Example:

<body **bgcolor**="black" **text**="white">

……

</body>

<body **background**="picture1.jpg" >

……

</body>

# Example 1:

- Create an HTML document with the following effects:
  - Set the page title to "*Welcome to My First Web Page*"
  - Set the background color to "*black*".
  - Set the text color to "*yellow*"
  - Include the text "*I like to learn HTML*"

```html
<html>

<head>

<title> Welcome to My First Web Page</title>

</head>

<body bgcolor="black" text="yellow">

I like to learn HTML

</body>

</html>
```

Welcom to My First Web Page - Microsoft Internet Explorer

File   Edit   View   Favorites   Tools   Help

Back   Search   Favorites

Address   C:\Documents and Settings\Gangani\Desktop\first.html

Google   Go

Web Search

I like to learn HTML

## Example 2:

Create a web page to include the following:

- Page title – ABC Bookworld Ltd.

- Page background - #F8F400

- Text color - #3D001C

- Set of suitable keywords for search engines.

- Redirect the page to http://www.abcbookmain.com after 10 seconds.

- Page contents : a message indicating that the user will be redirected to the bookshop main page.

```html
<html>
<head>
<meta name="keywords" content="books, CDs,
   Magazines" >
<meta http-equiv="refresh" content="10;
   url=http://www.abcbookmain.com" >
<title> ABC Bookworld Ltd</title>
</head>
<body bgcolor="#F8F400" text="#3D001C">
   You will be redirected to our main page in 10
   seconds </body>
</html>
```

# Basic Paragraph Text Tags

# Paragraphs

- The **\<p\>** tag marks the beginning of a paragraph.

- \</p\> tag is optional.

- HTML automatically leaves an extra blank line before and after a paragraph.

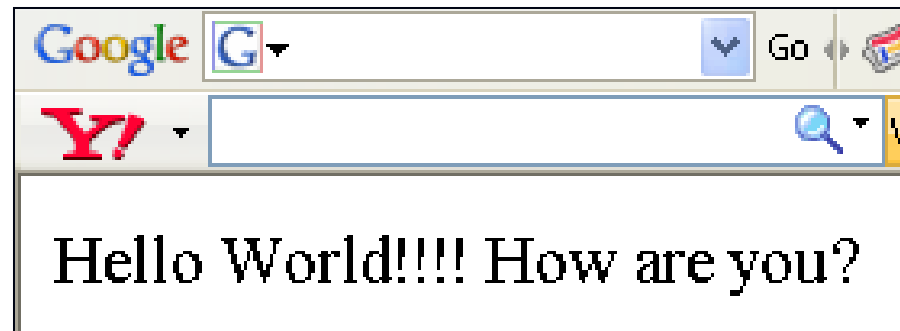Align (values: Center, left, right and justify).

Example:

<p align = "center">
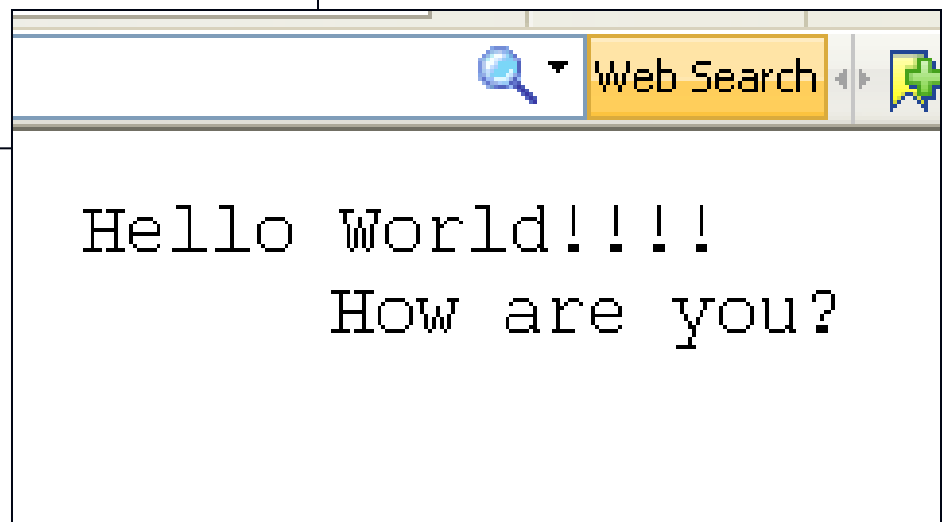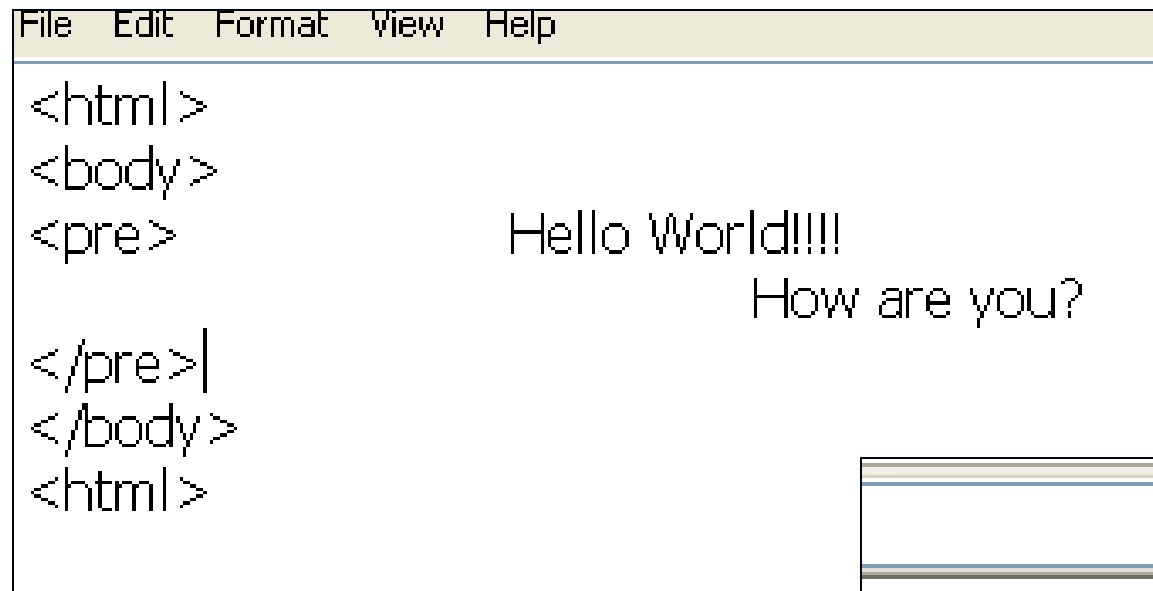
This paragraph is center aligned

</p>

# Line Breaks

- The **\<br\>** tag is used to end a line without starting a new paragraph. The tag forces a line break wherever it is placed.

- The \<br\> tag has no end tag.

# Preformatted Text

- The **<pre>** tag defines preformatted text. The text enclosed in the pre element usually preserves spaces and line breaks.

Hello World!!!! How are you?

```
<html>
<body>
<pre>                  Hello World!!!!
                            How are you?

</pre>
</body>
<html>
```

Hello World!!!!
              How are you?
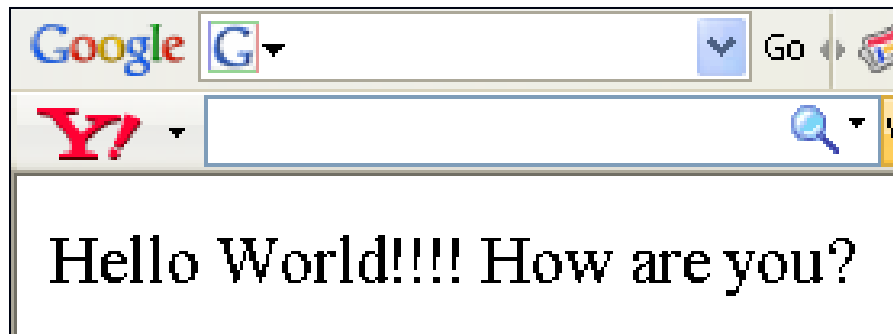
# Horizontal Rule

- The **\<hr\>** tag inserts a horizontal rule.

- The tag has no end tag.

# Center

- The **\<center\>** tag centers its enclosed text horizontally.

# Example 2:

Create the following web page using HTML:

---

<div align="center">

### Sun Ray Holiday Resorts

</div>

---

Sun Ray is a beach hotel where you can have the best holiday ever.

---

For more information please contact:

Bookings Manager

Tel: 234-5677    or    234-5688

```html
<html>
<body>
<center> Sun Ray Holiday Resorts</center>
<hr>
<p>Sun Ray is a beach hotel where you can <br>
  have the best holiday ever. </p>
<hr>
For more information please contact:
<pre>      Bookings Manager
              Tel: 234-5677  or   234-5688
</pre>
</body>
</html>
```

# Comments

- Comments are ignored by the browser.

- A comment is written between the **<! - -** and

  **- - >** symbols.

Example:

<! - - This is a comment - - >

# Lists

- Two types of lists are supported in HTML: definition (glossary) lists and regular lists.


- Definition Lists

  Contains a term followed by a definition.

- A definition list starts with the **\<dl\>** tag. Each definition-list term starts with the **\<dt\>** tag and each definition of a term starts with the **\<dd\>** tag.

- Example:

Create the following definition list:

CPU
    Central Processing Unit
RAM
    Random Access Memory

## Example:

```
<dl>

<dt> CPU </dt>

<dd> Central Processing Unit </dd>

<dt> RAM </dt>

<dd> Random Access Memory </dd>

</dl>
```

Create a web page using HTML to display the following definition list:

Mount Everest

Tallest Mountain in the world

Nile

Longest river in the world

Angel Falls

Highest waterfall in the world

```
<dl>

<dt> Mount Everest </dt>

<dd> Tallest Mountain in the world </dd>

<dt> Nile </dt>

<dd> Longest river in the world </dd>

<dt> Angel Falls </dt>

<dd> Highest waterfall in the world </dd>

</dl>
```

- **<u>Regular Lists</u>**

<u>Regular lists</u> can be categorized as <span style="color:yellow">ordered lists</span> and <span style="color:yellow">unordered lists.</span>

<u>Ordered Lists</u>

It is a list of items with the list items marked with numbers.

- An ordered list starts with the **<ol>** tag. Each list item starts with the **<li>** tag.

Example 1:

Create the following ordered list:

1. Apples
2. Oranges
3. Grapes

```html
<ol>
<li> Apples </li>
<li> Oranges </li>
<li> Grapes </li>
</ol>
```

# Unordered Lists

It is a list of items with the list items marked with bullets.

An unordered list starts with the **\<ul>** tag. Each list item starts with the **\<li>** tag.

# Example:

Create the following unordered list:

- Cricket
- Football
- Chess

```html
<ul>
<li> Cricket </li>
<li> Football </li>
<li> Chess </li>
</ul>
```

## Example 2:

Create a web page using HTML to display the following ordered list:

Item list:
1. Books
2. CDs
3. Stationary
4. Toys

# Text Styles

# Headings

- Headings are defined with **<h1>** to **<h6>** tags. <h1> defines the largest heading. <h6> defines the smallest heading.

- HTML automatically adds an extra blank line before and after a heading.

## Attributes:

Align (values: Center, left and right).

## Example:

`<h1 align = "center"> This is a heading </h1>`

# Heading 1

H1

## Heading 2

H2

### Heading 3

H3

#### Heading 4

H4

##### Heading 5

H5

###### Heading 6

H6

# Bold Text

- The **\<b\>** tag displays text in boldface.

# Italic Text

- The **\<i\>** tag displays text in italics.

# <u>Underlined Text</u>

- The **&lt;u&gt;** tag displays text that is underlined

# Fonts

- The **\<font\>** tag specifies the <u>font face</u>, <u>font size</u>, and <u>font color</u> of text.

<u>Example:</u>

\<font face="Arial" color="red" size="1" \>

  Hello World

\</font\>

Note:

A value of 3 for the size attribute represents the browser's default size for text (usually 16 pixels).

# Example:

Create the following web page using HTML:

H1 heading
Font face: Arial
Color: red

Font face: Tahoma
Size: 4

Font face: Garamond
Size: 6

**Book Sale !!!!**

Over <u>40%</u> discount on all
**Computer Science** textbooks....

*Hurry come and visit our bookshop.*

```html
<html>
<body>
<h1 align="center"><font face="Arial"
Color="red">Book Sale!!!</font></h1>
<p><font face="Tahoma" size="4">Over
<u>40%</u> discount on all<br>
<b>Computer Science</b>
textbooks....</font></p>
<p>
<i><font face="Garamond" size="6">Hurry
come and visit our bookshop.</font></i></p>
</body>
</html>
```

# Hyperlinks

- The **\<a\>** tag (anchor tag) is used to create links.

- Creating links to other web pages:

  - Syntax:

    **\<a href** = "URL"> .......\</a>

  > Example:
  >
  > **\<a href** ="hello.html"> Click Here \</a>

## Example:

Create the following web page using HTML:

---

# Sorry We have moved!!

You will be automatically redirected to our new site in 10 seconds or click the link given below:

<u>Visit New site</u>

---

Hyperlink to:
http://www.bookshop.com

```html
<html>
<head>
<meta http-equiv="refresh" content="10;
   url=http://www.bookshop.com"></head>
<body>
<h1 align="center">Sorry we have moved</h1>
<p> You will be automatically redirected to <br>our
   new site in 10 seconds or click the link <br>given
   below:</p>
<center>< a href="http://www.bookshop.com"> Visit
   new site</a> </center>
</body></html>
```

# Images

- The **\<img\>** tag places an image in an HTML document. It has no end tag.

- Syntax:

  - **\<img src = "URL"\>** where src = "URL" specifies the location of the image on the server.

  - Attributes: align (values: left, right), width, height

# Example 1:

Create the following web page using HTML.

Use suitable formatting.

School.jpg



**Hello World!!!!**

*This is my School.*

```html
<html>
<body>
<img src="school.jpg"/>
<h1 align="center"><font color="red">Hello
    World!!!</font></h1>
<h3 align="center"><i>This is my school </i></h3>
</body>
</html>
```

Example 2:

Create the following web page using HTML.
Add a suitable title, a background color, font
types and font sizes to the document.

House.jpg

# House for Rent

A two bedroom house for rent at:

120, Wijerama Lane,

Colombo.

*Monthly rental :Rs 8,000*

```html
<html><head>

<title>House for Rent</title></head>

<body>

<img src="house.jpg" align="left">

<h1 align="center"><font color="red"><u>House
    for rent</u></font></h1>

<p><font face="Garamond" size="4">A two
    bedroom house for rent at:<br>
```

```html
120, Wijerama Lane,<br>
Colombo.<br></font>
<font face="Tahoma" size="5"
  color="blue"><u><i>Monthly rental : Rs 8,000
  </i></u></font>
</p>
</body>
</html>
```
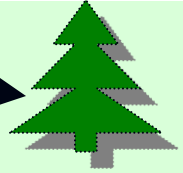
Image:tree.gif

# The Garden Shop

H1 heading, Center

### Every thing you need for your garden under one roof…..

H3 heading

- Garden Tools
- Fertilizers
- Pots & plants etc

Background Color:#7DC623

**You can also get <u>expert advice</u> on gardening from our friendly staff.  Call us to make an appointment. They will visit you**.

Paragraph
Font color:green
Face:Arial

```
100, Colombo Road,
      Kandy                    Tel: 234-56789
```

Preformatted text

<u>Visit our branches</u>

Hyperlink to: www.gardenb.com

```html
<html><body bgcolor="#F8F400">
<img src="tree.jpg" align="left" width="50"
    height="75"/>
<h1><center><font color="green">The Garden
    Shop</font></center></h1>
<h3>Everything you need for your garden under one
    roof....</h3>
<hr>
<ul>
<li>Garden Tools</li>
<li>Fertilizers</li>
<li>Pots and Plants etc...</li>
</ul>
<hr>
```

```html
<p><font face="Arial" color="green">You can also
   get <u> expert advice</u> on gardening from<br>
our friendly staff.  Call us to make an appointment.<br>
They will visit you.
</p>
<br>
<pre><font face="Arial"> 100, Colombo Road,
     Kandy.                    Tel:234-5678
</font>
</pre>
<br>
<a href="http://www.gardenb.com">Visit our
   Branches</a>
</body></html>
```

# Tables

- Tables are defined with the **<table>** tag.

- A table is divided into rows with the **<tr>** tag, and each row is divided into data cells with the **<td>** tag.

- Headings in a table are defined with the **<th>** tag.

## Attributes:

| Border | Adds a border to the table. A value 0 means no border as measured in pixels. |
|--------|------------------------------------------------------------------------------|
| Align | Alignment of table or text within individual cells. (values : left, center, right). |
| Bgcolor | Background color of table or individual cells. |

| | |
|---|---|
| Width | Specifies the width of the table (in terms of pixels or as a percentage) or of individual cells. |
| Cellpadding | Setting of space (in pixels) between a cell's content and its borders. |
| Cellspacing | Setting the amount of space (in pixels) between cells. |

## Example 1:

Write the HTML code to display the following table:

| Student No | Name |
|---|---|
| ST100 | Nimal |
| ST200 | Mala |

```html
<html><body>
<table>
<tr><th> Student No. </th>
<th> Name </th></tr>
<tr><td>ST100</td>
<td>Nimal</td></tr>
<tr><td>ST200</td>
<td>Mala</td></tr>
</table>
</body></html>
```

| Student No. | Name |
|-------------|-------|
| ST100 | Nimal |
| ST200 | Mala |

# Example 2:

Design an HTML document to display the following table:

| Item | Price |
|------|-------|
| Rice | 70 |
| Sugar | 60 |
| Dhal | 75 |
| Flour | 40 |

```
<html><body>
<table border="1">
<tr><th>Item</th>
<th>Price</th></tr>
<tr><td>Rice</td>
<td align= "center">70</td></tr>
<tr><td>Sugar</td>
<td align= "center">60</td></tr>
.......
</table>
</body></html>
```

| Item  | Price |
|-------|-------|
| Rice  | 70    |
| Sugar | 60    |
| Dhal  | 75    |
| Flour | 40    |

# With cell padding

| Item | Price |
|------|-------|
| Rice | 70 |
| Sugar | 60 |
| Dhal | 75 |
| Flour | 40 |

# With cell spacing

| Item | Price |
|------|-------|
| Rice | 70 |
| Sugar | 60 |
| Dhal | 75 |
| Flour | 40 |

# Table Captions

- The **<caption>** tag creates a table caption.

- The tag should appear <u>directly below the</u> <u><table> tag, before the first <tr>.</u>

- <u>Attributes:</u>

  - Align ( values : top, bottom, left , right).

# Example 2:

Create the following table:

| Town | Province |
|------|----------|
| Colombo | Western |
| Kandy | Central |
| Galle | Southern |

Towns & Their Location

```html
<html><body>
<table border="1" align="center" width="50%">
<caption align="bottom"> Towns & Their Locations
  </caption>
<tr bgcolor="green">
<th> Town</th>
<th>Province</th></tr>
<tr bgcolor="blue"><td>Colombo</td>
<td align="center">Western </td></tr>
<tr><td>Kandy</td>
<td align="center">Central</td></tr>
```

```html
<tr bgcolor="blue">
<td>Galle</td>
<td align="center">Southern</td></tr>
</table>
</body>
</html>
```
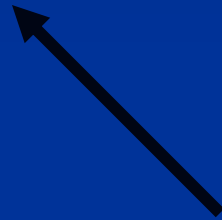
# Starting the web page:

**<!DOCTYPE HTML PUBLIC "_//w3c/DTD HTML 4.0//EN">**

Declares the version of HTML the page is using