# HNDIT1022 – Web Design

## Week 3 Part 1: Understanding more HTML tags

# Subtopics

- Insert HTML link

- Insert images into web page

- HTML List

- Insert tables into web page

# HTML – links and images

## Linking

- Most important feature is the hyperlink
  - Which references other resources, such as HTML documents and images.
- Both text and images can act as hyperlinks
- Web browsers underline text hyperlinks and colour their text blue by default.
  - User can distinguish hyperlinks from plain text
- Placing the mouse over this region and clicking the mouse button causes the client to access the indicated document or other Internet resource.

# Anchors

- The element marking a hypertext link is called an anchor element, and the marked text is referred to as a hypertext anchor.

- The area between beginning <a> and ending </a> tags becomes a hot part of text.

# HTML Link

- Link syntax:

  <a href="url">Link text</a>

- The start tag contains attributes about the link.

- The element content (Link text) defines the part to be displayed.

- The element content doesn't have to be text. You can link from an image or any other HTML element.

# The href attribute

- The href attribute defines the link "address".
- This &lt;a&gt; element defines a link to google:

  &lt;a href="http://www.google.com/"&gt;Visit Google!&lt;/a&gt;

- The code above will display like this in a browser:

  [Visit Google!](http://www.google.com/)

# The target attribute

- The target attribute specifies where to open the linked document.
- Syntax:

  <a target="*value*">

# Attribute values

| Value | Description |
|---|---|
| _blank | Open the linked document in a new window |
| _self | Open the linked document in the same frame as it was clicked **(this is default)** |
| _parent | Open the linked document in the parent frameset |
| _top | Open the linked document in the full body of the window |

# The target attribute-example

— The code below will open the document in a new browser window with no name:

<a href="http://www.google.com/"
target="_blank">Visit Google!</a>

# The name Attribute

- The name attribute is used to mark a place as a specific destination of a hypertext link.

- syntax:

    <a name="label">Any content</a>

  — The value "label" identifies this destination

- When using named anchors we can create links that can jump directly into a specific section on a page, instead of letting the user scroll around to find what he is looking for.

- The link syntax to a named anchor:

    <a href="#label">Any content</a>

- The # in the href attribute defines a link to a named anchor.

# Exercise

```
<html>
        <head>
        <title> Showing hyperlink </title>
        </head>
        <body>
        <a href=https://www.youtube.com/watch?v=Gdwst4kSfy4"  target="_blank">
        17th Diploma Awarding Ceremony – SLIATE  Join With Our Celebration!
        </a>
        </body>
</html>
```
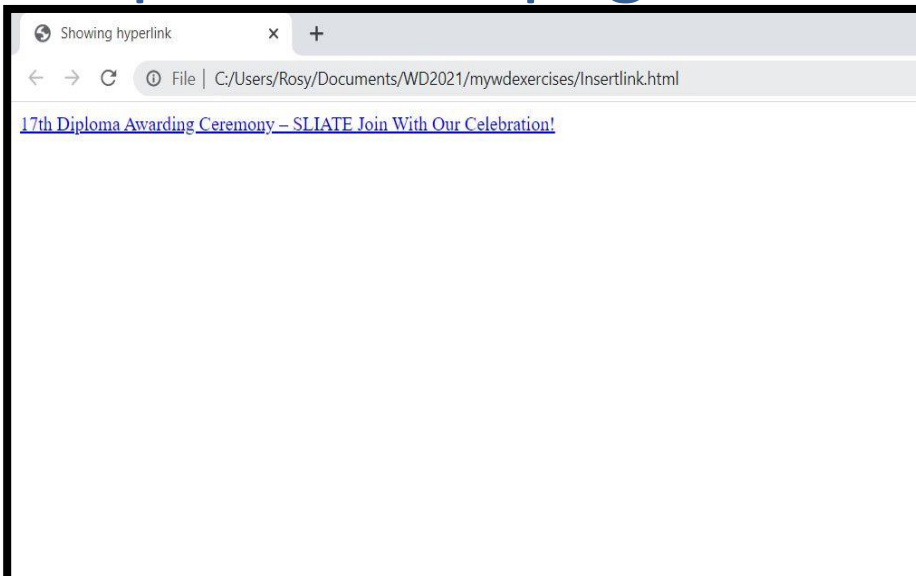
## Output: linked page will be open in new window

# Images

- Web pages contain both text and images
- Images are an equal part of web page design
- The three most popular image formats used by Web developers
  - Graphics Interchange Format (gif)
  - Joint Photographic Experts Group (jpeg)
  - Portable Network Graphics (png)
- Users can
  - Create images using software  (Adobe Photoshop)
  - Acquire from web sites (Yahoo picture gallery)

# img Element

- Use an img element to insert an image in the document
- The <img> tag is empty, which means that it contains attributes only and it has no closing tag.
- The image file's location is specified with the src attribute.
  - src stands for "source"
- The value of the src attribute is the URL of the image you want to display on your page.
- The syntax of defining an image:

  <img src="url">

# img Element (contd..)

— The browser puts the image where the image tag occurs in the document.

— If you put an image tag between two paragraphs, the browser shows the first paragraph, then the image, and then the second paragraph.

# The alt attribute

- The alt attribute is used to define an "alternate text" for an image.
- The value of the alt attribute is an author defined text:

  <img src="boat.gif" alt="Big Boat">

- The "alt" attribute tells the reader what he or she is missing on a page if the browser can't load images.
- The browser will then display the alternate text instead of the image.
- It is a good practice to include the "alt" attribute for each image on a page, to improve the display and usefulness of your document for people who have text-only browsers.

# Size of the image

- The optional attributes width and height specify the width and height of the image respectively.
- Can scale an image by increasing or decreasing the values of the width and height
- If these are omitted, the browser uses the actual width and height attributes.
- Images are measured in pixels
- **Example**
  — An image with a height and a width of 100 pixels:

    <img src "ati.jpg" alt="'Institute" height="100" width="100" >

# Size of the image (contd..)

— Syntax:

&lt;img height="*value*" &gt;

—Attribute Values

| Value | Description |
|---|---|
| pixels | The height in pixels |
| percent | (like "100px" or just "100") The height in percent of the containing element (like"20%") |

# Example- image

```
<html>
<head>
<title> Showing IMG </title>
</head>
<body>
<h1> Image inclusion and hypertext links </h1>
<p> Greetings!</p>
 <img src = "ATI.jpg" >
 </body>
 </html>
```

# Images as link anchors

- Can create graphical web pages that link to other resources.
- Can turn an image into a hyperlink by putting it inside an anchor element

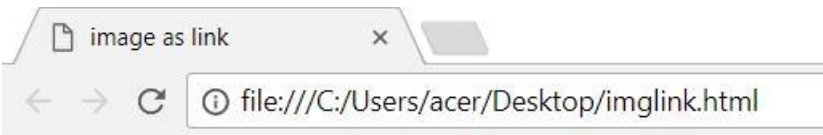  &lt;a href = https://www.gov.lk/welcome.html&gt;

  &lt;img src="image.gif"&gt;

  &lt;/a&gt;

— When you click on the image, you are linked to the indicated document.

# Exercise

```
<html>
        <head>
        <title>image as link</title>
        </head>
        <body>
        <a href = "https://www.gov.lk/welcome.html">
        <img src="srilanka.jpg">
        </a>
        </body>
</html>
```
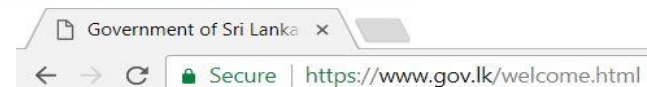
# Exercise: Output



This image has link.
When you click on the image, you are linked to the indicated website.

# The align attribute

- The align attribute specifies the horizontal and vertical alignment of an image according to the surrounding element.
- There are five alignment options.
- Syntax:

    <img align="*value*" >

# The align attribute(contd..)

- Values:
  - top – aligns the top of the image with the text
  - middle – aligns the middle of the image with the text
  - bottom – aligns the bottom of the image with the text
  - left – aligns the image to the left of text
  - right – aligns the image to the right of the text

    `<img src="ati.jpg" alt="Institute" width="65" height    ="50" align="top">`

# Exercise

```html
<html>
        <head>
        <title> Showing Image </title>
        </head>
        <body>
        <h1 align="center"> 17<sup>th</sup>SLIATE Awarding
Ceremony</h1>
        <p><center>Most Awaited Moment!</center></p>
        <center><img src = "convocation.jpg" alt="SLIATE 2022 Convocation"
                height="500" width="750"></center>
        </body>
</html>
```

# Exercise: Output

## 17<sup>th</sup>SLIATE Awarding Ceremony

Most Awaited Moment!

# Exercise: Output With alt attribute

## 17<sup>th</sup>SLIATE Awarding Ceremony

Most Awaited Moment!

SLIATE 2022 Convocation

# HTML- character entities, styles, lists and tables

## Character entities

- Certain character or symbols may be difficult to embed directly into a HTML document.
  - Some keyboards do not provide these symbols
  - Some characters like the < character, have a special meaning in HTML.
- Presence of these symbols may cause syntax errors
- Example:

  <p> if x<10 then increment x by 1</p>

# Character entities (contd..)

- HTML provides character entities for representing special characters.
- A character entity has three parts:
  - an ampersand (&)
  - an entity name or # and an entity number
  - a semicolon (;)
- The corrected line:

  <p> if  x &lt;10 then                              increment x by                              1
  </p>                                               for the less than symbol
  — Uses the character entity &lt;

# Character entities (contd..)

— Can write it as

    `<p>` if x `&#60;` 10 then increment  x by     1
    `</p>`

- advantage of using a name instead of a number is that a name is easier to remember.

- The disadvantage is that not all browsers support the newest entity names, while the support for entity numbers is very good in almost all browsers.

- Note that the entities are case sensitive.

# Non breaking space

- The most common character entity in HTML is the non-breaking space.
- Normally HTML will truncate spaces in your text.
  — If you write 10 spaces in your text HTML will remove 9 of them.
- To add spaces to your text, use the   character entity.

# The most common character entities

| Result | Description | Entity Name | Entity Number |
|---|---|---|---|
| | non-breaking space |   |   |
| < | less than | &lt; | &#60; |
| > | greater than | &gt; | &#62; |
| & | ampersand | &amp; | &#38; |
| " | quotation mark | &quot; | &#34; |
| ' | apostrophe | | &#39; |

# Some other commonly used Character entities

| Result | Description | Entity Name | Entity Number |
|--------|-------------|-------------|---------------|
| ¢ | cent | &cent; | &#162; |
| £ | pound | &pound; | &#163 |
| ¥ | yen | &yen; | &#165; |
| § | section | &sect; | &#167 |
| © | copyright | &copy; | &#169 |
| ® | registered trademark | &reg; | &#174; |
| × | multiplication | &times; | &#215; |
| ÷ | division | &divide; | &#247; |

# Example

```
<html>
<body>
<p>&copy; reserved</p>
<p>We&hearts;Our Country</p>
<p>you &amp; me forever friends</p>
<p>I    will   go</p>
<p>number 5 is &#60; number 12</p>
<p>number 5 is &lt; number 12</p>
<p>number 15 is &#62; number 9</p>
<p>number 15 is &gt; number 9</p>
</body>
</html>
```

© reserved

We♥Our Country

you & me forever friends

I   will   go

number 5 is < number 12

number 5 is < number 12

number 15 is > number 9

number 15 is > number 9

# Tabs in HTML

- White space characters
  - The space
  - The tab
  - The carriage return
- In print they act differently
- In HTML they act exactly the same
  - If you place 1 space or 100 or mix it up with tabs and carriage returns, they will all be condensed down to 1 space when the page is rendered by the browser.

# Using the Tab Character

- Tab markers along the horizontal axis
  - You can't
- HTML can handle
  - Tabs for layout
  - to get the text to move over a certain amount

# Moving text more than one space

- To move more than one space away from the preceding item, you can use the non-breaking space.

- To use the non-breaking space, you simply type   as many times as you need it.

# Styles attribute

- The style attribute is a new HTML attribute.

- It introduces CSS to HTML.

- The purpose of the style attribute is:

- To provide a common way to style all HTML elements.

- The style attribute specifies an inline style for an element.

- The style attribute will override any style set globally, e.g. styles specified in the <style> tag or in an external style sheet.

- Syntax

  <element style="value">

- Attribute Values

  — One or more CSS properties and values separated by semicolons

# HTML  Style Examples

- style="background-color:yellow"
- style="font-size:10px"
- style="font-family:Times"
- style="text-align:center"

# Example

— Use of the style attribute in an HTML document:

&lt;h1 style="color: blue; text-align: center"&gt;This is a header&lt;/h1&gt;
&lt;p style="color:green"&gt;This is a paragraph.&lt;/p&gt;

# Style Examples:

- Background Color
  - <body style="background-color:yellow">
  - The style attribute defines a style for the <body> element.
- Font Family, Color and Size
  - <p style="font-family:courier new; color:red; font-size:20px">
  - The style attribute defines a style for the <p> element.
- Text Alignment
  - <h1 style="text-align:center">
  - The style attribute defines a style for the <h1> element.

# Style Examples (contd.)

```html
<html>
  <body style="background-color:pink;">
        <h1 style="text-align:center">Look! Styles and colors</h1>
        <p style="font-family:courier new;color:red">This text is in courier new and
red</p>
        <p style="font-family:arial;color:green"> This text is in arial and green</p>
        <p style="font-size:30px">This text is 30 pixels high</p>
  </body>
</html>
```

# List Elements

- HTML has several elements for defining different types of lists.
- Can be divided into two types
  - Regular lists (the elements OL, and UL)
  - Definition lists (the element DL)
- List of the same or different types can be nested.

# Unordered lists(UL)

- The ul element defines an unordered list.
  - A list that does not order its elements by letter or number
- Each list item is indicated by a special symbol
  - Bullet or asterisk
- Each item in an un ordered list is contained within an li(list item) element
  - List element is the only thing that can appear inside an un ordered list .
- Rendered with a line break and a bullet symbol indented from the beginning of the new line

| Value | Description |
|---|---|
| disc | Sets the list item marker to a bullet (default) |
| circle | Sets the list item marker to a circle |
| square | Sets the list item marker to a square |
| none | The list items will not be marked |

# Example 1

```
<html>
<body>
<h4>Types of computers:</h4>
        <ul>
          <li>Mainframe computer</li>
          <li>Mini computer</li>
          <li>Micro computer</li>
        </ul>
</body>
</html>
```

**Types of computers:**

- Mainframe computer
- Mini computer
- Micro computer

# Example 2

```html
<html>
<body>
<ul type="none">
 <li>Banana</li>
 <li>Orange</li>
 <li>Pineapple</li>
</ul>
<ul type="disc">
 <li>Vanila</li>
 <li>Chocolate</li>
 <li>Mixed</li>
</ul>
<ul type="square">
 <li>Red</li>
 <li>Yellow</li>
 <li>Green</li>
</ul>
<ul type="circle">
 <li>Rose</li>
 <li>Jasmine</li>
 <li>Sun Flower</li>
</ul>
</body>
</html>
```

Banana
Orange
Pineapple

- Vanila
- Chocolate
- Mixed

- Red
- Yellow
- Green

- Rose
- Jasmine
- Sun Flower

# Ordered lists(OL)

- The ol defines an ordered list
- A browser indicates ordering by numbering the items
  - Assigning them ascending numbers, letters, etc.
- Each item in an ordered list is contained within an li(list item) element
  - List element is the only thing that can appear inside an ordered list.
- Items are enumerated 1, 2,3 and so on

| Type | Description |
|------|-------------|
| type="A" | The list items will be numbered with uppercase letters |
| type="a" | The list items will be numbered with lowercase letters |
| type="I" | The list items will be numbered with uppercase roman numbers |
| type="i" | The list items will be numbered with lowercase roman numbers |
| type="1" | The list items will be numbered with numbers (default) |

# Example 1

```
<html>
<body>
<ol>
  <li>HNDA</li>
  <li>HNDE</li>
  <li>HNDIT</li>
</ol>
<ol start="50">
  <li>Maths</li>
  <li>Science</li>
  <li>English</li>
</ol>
</body>
</html>
```

1. HNDA
2. HNDE
3. HNDIT

50. Maths
51. Science
52. English

# Example 2

```html
<html>
<body>
<ol type="1">
 <li>Banana</li>
 <li>Orange</li>
 <li>Pineapple</li>
</ol>
<ol type="i">
 <li>Vanila</li>
 <li>Chocolate</li>
 <li>Mixed</li>
</ol>
<ol type="I">
 <li>Red</li>
 <li>Yellow</li>
 <li>Green</li>
</ol>
<ol type="A">
 <li>Rose</li>
 <li>Jasmine</li>
 <li>Sun Flower</li>
</ol>
<ol type="a">
 <li>Lecturer</li>
 <li>Doctor</li>
 <li>Engineer</li>
</ol>
</body>
</html>
```

1. Banana
2. Orange
3. Pineapple

i. Vanila
ii. Chocolate
iii. Mixed

I. Red
II. Yellow
III. Green

A. Rose
B. Jasmine
C. Sun Flower

a. Lecturer
b. Doctor
c. Engineer

# Definition lists

- Presents a list of items, each with a descriptive paragraph of each item.

  — Can be used for traditional glossaries

- A definition list starts with a <dl> tag (**d**efinition **l**ist).

- Each term starts with a <dt> tag (**d**efinition **t**erm).

- Each description starts with a <dd> tag (**d**efinition **d**escription).

- DT and DD elements should appear in pairs.

# DT element

- The DT element contains the term part of the description list
- The contents should be short
  - A few words
  - Shorter than a line

# DD element

- Gives the description corresponding to the previous DT element.
- Can be a long description
  - Broken into paragraphs
  - Lists
  - Forms
  - Etc
- A DD element must always follow a DT element.
  - Cannot occur alone.

# Example 1: definition list

```
<html>
<body>
<dl>
 <dt>HNDA</dt>
        <dd>Higher National Diploma in Accountancy</dd>
 <dt>HNDIT</dt>
        <dd>Higher National Diploma in Information Technology</dd>
</dl>
</body>
</html>
```

HNDA
    Higher National Diploma in Accountancy
HNDIT
    Higher National Diploma in Information Technology

# Example 1: Nested List

```html
<html>
<head>
Nested List
</head>
<body>
<ol>
  <li>Believe in yourself</li>
  <li>You want
    <!-- Start nested list -->
    <ol>
      <li>to manage time</li>
      <li>to do hard work</li>
      <li>to be happy</li>
      <li>to follow best Attitude</li>
    </ol>
   <!-- end nested list -->
  </li><!-- close list item containing nested list -->
  <li>Success is yours!!!</li>
</ol>
</body>
</html>
```

Nested List

1. Believe in yourself
2. You want
    1. to manage time
    2. to do hard work
    3. to be happy
    4. to follow best Attitude
3. Success is yours!!!

# Tables

- Used to organize data into rows and columns.
- Defined with the table element.
- Has three sections
  - Head
    - Contains header information – column names
  - Body
    - Contains primary data
  - Foot
    - Commonly includes calculation results and footnotes

# Table tag

- 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).
  - The letters td stands for "table data," which is the content of a data cell.
- A data cell can contain text, images, lists, paragraphs, forms, horizontal rules, tables, etc.

# Border Attribute

- Specifies the width (in pixels) of the borders around a table.
- The border attribute applies a border to each cell, and around the table.
- If you do not specify a border attribute the table will be displayed without any borders.
  - Sometimes this can be useful, but most of the time, you want the borders to show.
- Syntax

  <table border= "*value*">

# Width attribute

- The width attribute specifies the width of a table.
- If the width attribute is not set, a table takes up the space it needs to display the table data.
- Syntax

  <table width="*value*">
- Attribute Values
  - *Pixels:* Sets the width in pixels (example: width="50")
  - *%* : Sets the width in percent of the surrounding element (example: width="50%")

# Table   description elements

The structure and contents of the table are defined by additional elements that can appear inside the table.

| Tag | Description |
| --- | --- |
| <table> | Defines a table |
| <th> | Defines a table header |
| <tr> | Defines a table row |
| <td> | Defines a table cell |
| <caption> | Defines a table caption |
| <rowspan> | Defines the number of rows a cell should span/merge. |
| <colspan> | Defines the number of columns a cell should span. |
| <colgroup> | Defines groups of table columns |
| <col> | Defines the attribute values for one or more columns in a table |
| <thead> | Defines a table head |
| <tbody> | Defines a table body |
| <tfoot> | Defines a table footer |

# Example 1 - Table

```
<html>
        <head>
        <title>HTML-Table</title>
        </head>
        <body>
        <table border="2">
        <caption>
        <b>Student Details</b>
        </caption>
        <tr>
                <th>Student Name</th>
                <th>Course Name</th>
        </tr>
        <tr>
                <td>Thaya</td>
                <td>HNDA</td>
        </tr>
```

```
<tr>
        <td>Deshani</td>
        <td>HNDE</td>
    </tr>
    <tr>
        <td>Ijary</td>
        <td>HNDIT</td>
    </tr>
    <tr>
        <td>Herath</td>
        <td>HNDTHM</td>
    </tr>
    </table>
    </body>
</html>
```

# Example 1 – Table: Output

HTML-Table    ×

← → C   ⓘ file:///C:/Users/acer/Desktop/tableEx1.html

**Student Details**

| Student Name | Course Name |
|---|---|
| Thaya | HNDA |
| Deshani | HNDE |
| Ijary | HNDIT |
| Herath | HNDTHM |

# Example 2 - Table

```html
<html>
      <head>
      <title>Table with colspan</title>
      </head>
      <body>
      <table border="1">
      <tr>
                <td colspan="3" align="center">Subject Details</td>
      </tr>
      <tr>
                <th>Code No</th>
                <th>Subject</th>
                <th>No Of Credits</th>
      </tr>
      <tr>
                <td>HNDIT 1012</td>
                <td>Visual Application Programming</td>
                <td>04</td>
      </tr>
```

```
    <tr>
            <td>HNDIT 1022</td>
            <td>Web Design</td>
            <td>04</td>
    </tr>
    <tr>

            <td>HNDIT 1032</td>
            <td>Computer and Network Systems</td>
            <td>03</td>
    </tr>
    <tr>

            <td colspan ="2" align="center">Total Credits</td>
            <td>07</td>
    </tr>
    </table>
    </body>
</html>
```

# Example 2 - Table: Output

| Subject Details | | |
|---|---|---|
| **Code No** | **Subject** | **No Of Credits** |
| HNDIT 1012 | Visual Application Programming | 04 |
| HNDIT 1022 | Web Design | 04 |
| HNDIT 1032 | Computer and Network Systems | 03 |
| Total Credits | | 07 |

# Example 3 - Table

```
<html>
        <head>
        <title>Table with rowspan</title>
        </head>
        <body>
        <table border="1" width="40%">
        <tr>
                <th colspan="2" align="center">Personal Details</th>
        </tr>
        <tr>

                <th>Name</th>
                <td>Rozan</td>
        </tr>
        <tr>

                <th rowspan="2">Contact Number</th>
                <td>021 226 3245</td>
        </tr>
```

```
<tr>
            <td>077 8675443</td>
        </tr>
        <tr>

            <th>Address</th>
            <td>Colombo</td>
        </tr>
        </table>
        </body>
</html>
```

# Example 3 - Table: Output

# Example 4 - Table

```
<html>
<head>
<title>HTML -Tables</title>
</head>
<body>
<table border =      "1"          width =    "40%">
<caption><strong>Price of Fruit</strong></caption>
        <thead>
        <tr>
        <th>Fruit</th>
        <th>Price</th>
        </tr>
        </thead>
        <tfoot>
        <tr>
        <th>Total</th>
        <th>Rs.180.00</th>
        </tr>
        </tfoot>
```

# Example 4(contd..)

```html
<tbody>
        <tr>
        <td>Mango</td>
        <td>Rs.60.00</td>
        </tr>
        <tr>
        <td>Banana</td>
        <td>Rs.45.00</td>
        </tr>
        <tr>
        <td>Pineapple</td>
        <td>Rs.75.00</td>
        </tr>
        </tbody>
</table>
</body>
</html>
```

### Price of Fruit

| Fruit | Price |
|---|---|
| Mango | Rs.60.00 |
| Banana | Rs.45.00 |
| Pineapple | Rs.75.00 |
| **Total** | **Rs.180.00** |

# Questions...?