**Learning Objectives**

* To have a macro understanding of HTML;
* To grasp compositions of HTML tags;
* To grasp commonly used tag attributes in HTML Tag.

**Learning Contents**

* HTML is a very simple markup language composed of different elements. It can be applied in a text fragment to give the text different meanings (a paragraph? a list? or a table?) in the document and the document is structured in different logical blocks (a head? three columns? or a navigation menu?) Besides, pictures, images and other contents can be embedded into the page.
* HTML (HyperText Markup Language) is a markup language used to inform the browser of how to construct the web page you visit and describe contents and structure with tags. It can be as complex or simple as what Web developers expect. HTML is composed of a series of elements. You can encapsulate, wrap or mark different parts of content with it to display or execute them in certain form.
* A basic HTML tag is shown as below:
  + **<p>Hello world</p>**
  + The tag generally contains the following contents:
    - Opening tag: It contains name of an element (<p>) which is wrapped in the angle brackets. It indicates start or validation of the element. — In this example, it indicates start of a paragraph.
    - Closing tag: It is the same as the opening tag except the forward slash put before the element name. It indicates ending of the element. — In this example, it indicates ending of a paragraph. Omission of the closing tag is a common error of beginners which might result in a weird outcome.
    - Content: This is content of an element. In this example, it is a text.
    - Element: An opening tag plus a closing tag plus content equals an element.
* In HTML tag, nesting, in other words, to put one element in another element, is allowed. For instance, if we want to make a bold World, we can do as below:
  + **<p>Hello, <strong>World</strong></p>**
  + We should make sure that elements are nested correctly: In the above example, we open the element <p> first and then the element <strong>, so we have to close the element <strong> before the element <p>.
  + There are incorrect examples: **<p>Hello, <strong>World</p></strong>**
  + All elements should be opened and closed correctly so that they can be displayed in the form as you expect. If you make an improper nesting like the above examples, the browser will guest what you want to express and a wrong result will be gotten probably.
* In HTML, there are two important types of elements you need to know, namely, block elements and inline elements.
  + Block elements appear in a web page in the form of blocks. — Being separated with the foregoing contents, they start in a new line. The following contents are also pushed to a new line. Block elements are generally used to display structured contents on a web page, e.g. paragraph, list, navigation menu and footer. A block element cannot be nested into an inline element, but can be nested into other block elements.
  + Inline elements normally appear in block elements and wrap a small part of document content, instead of a whole paragraph or a set of contents. Inline elements do not result in linefeed: They normally appear between a pile of characters, e.g. hyperlink element <a> and highlight elements <em> and <strong>.
* Changes in HTML5
  + doctype, meta;
  + Add semantic tags and attributes;
  + Remove purely display tags;
  + canvas, video, audio, offline, local storage, drag, etc.
* Basic syntax for HTML
  + Tags are case-insensitive but lowercase is recommended;
  + An empty tag may not be closed, e.g. input, meta;
  + Quotation marks are not necessarily required for an attribute but it is recommended to use them.
  + Some attribute values can be omitted, e.g. required, readonly.

**Recommended Resources**

* Introduction to Basic Knowledge of HTML (<https://www.w3schools.com/html/html_intro.asp>)
* Web Front End Development: Introduction to HTML (<https://developer.mozilla.org/en-US/docs/Learn/HTML/Introduction_to_HTML/Getting_started>)