

## LAB 01 – HTML5

*This practice will be divided into three parts:*

*Part 01: Important tags in HTML5*

*Part 02: Practical exercises with instructions*

*Part 03: Self-practice exercises*

### **A. PART 01**

#### ***1/. Getting started with HTML5***

##### *1/. Choose a tool for coding*

You can use a number of tools to support website development such as Atom, Notepad++, Sublime Text, Adobe Dreamweaver CC, Visual Studio Code, CoffeeCup HTML Editor, Netbeans,...

Particularly for the LAB lessons in this course, I will use Visual Studio Code.





You can download Visual Studio Code via this link:  
<https://code.visualstudio.com/download>

After that, you proceed to install Visual Studio Code tools normally like other applications

##### *2/. Create a static web project*

If you want to create a static web project, you can follow like this:

In the local computer, you can organize the folder structure on your computer as follows:

Name	Type
 css	File folder
 images	File folder
 js	File folder
 demo.html	Chrome HTML Document

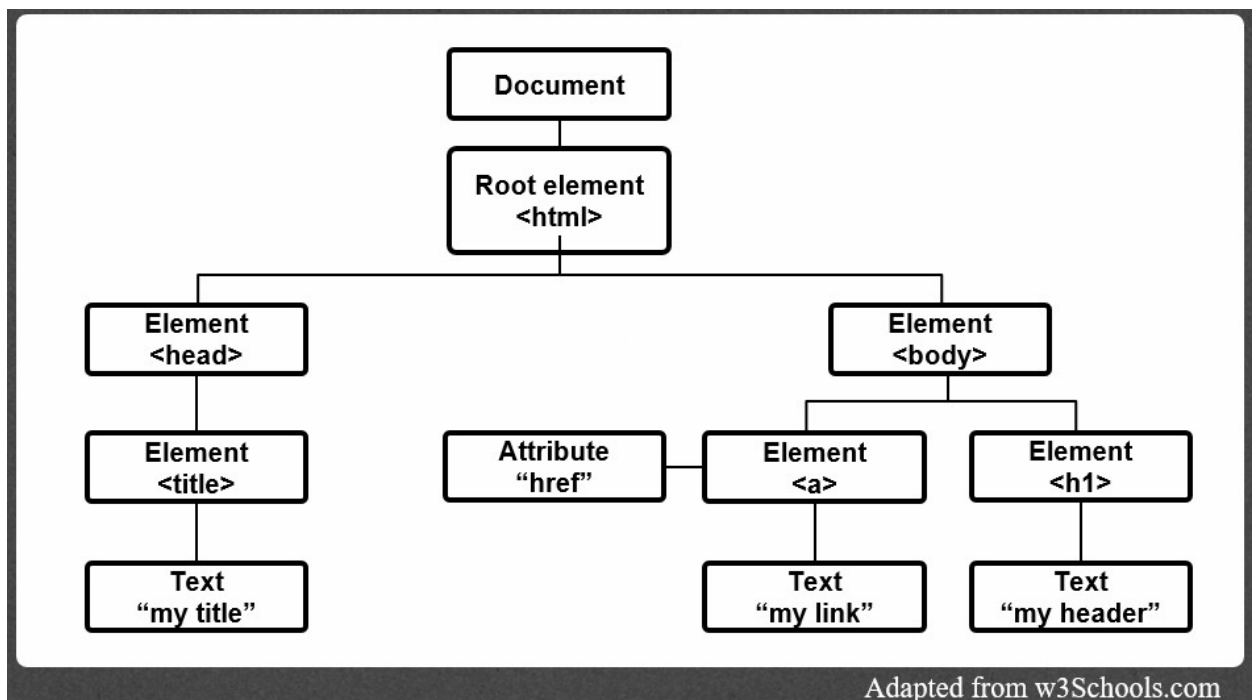
+ Folder css: It contains .css files for styling your web page.

- + Folder images: It contains image files which is used for your site. Moreover, you can create some folders such as video, audio,...and it is the same level with “images” folder.
- + Folder js: It contains Javascript files (.js files) for interaction with your site.
- + You can create many .html files in the same level with folders above. Or you can put .html files to other folders (depending on the intended use).

### *3/. Create a HTML file and HTML page structure analysis*

#### The Document Object Model (DOM)

DOM provides common tree-like structure that all pages should follow.



#### HTML page structure

```

<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Demo HTML5</title>
</head>

<body>
  This is my first website!
</body>

</html>

```

<!DOCTYPE html> Declare this as a file in HTML5 format to help the browser know how much html version you are using, yes or no but it will be limited to many new tags, attributes in tags that are not detected by the browser.

<html> tag html file structure.

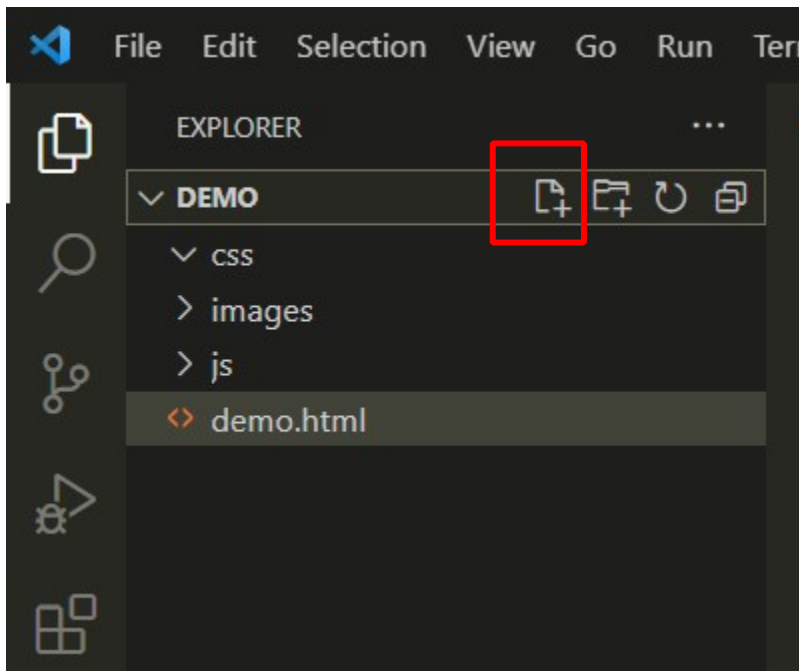
The <body> tag is located after the <head> tag, with a closing </body> tag before </html>. Body is the place that contains what people will see on the page such as menu bars, banners, ads.

<head> tag: Located after the <html> tag, with a closing </head> tag, it contains tags that declare information for the page such as title, description, character encoding. <head> tag does not display the content of what it contains.

### How to create HTML file

You can create HTML file with Visual Studio Code (VSC) follow these steps:

- Step 01: Open HTML project in VSC by open folder where stores website resources in your computer.
- Step 02: You can add new file in folder after open it.



You need to use .html extension for the new file.

- Step 03: After creating a new file, you can type manually with the structure above for creating HTML file content.

But with VCS, it can support creating HTML file content by type “**html:5**”

#### *4/. How to work with HTML file*

In VCS, you need to install extension “view-in-browser” in order to open HTML files with your browser.

When you finish for creating HTML file content, if you want to see it in your browser, after installing extension, you can click right mouse on your file and choose “View In Browser”.

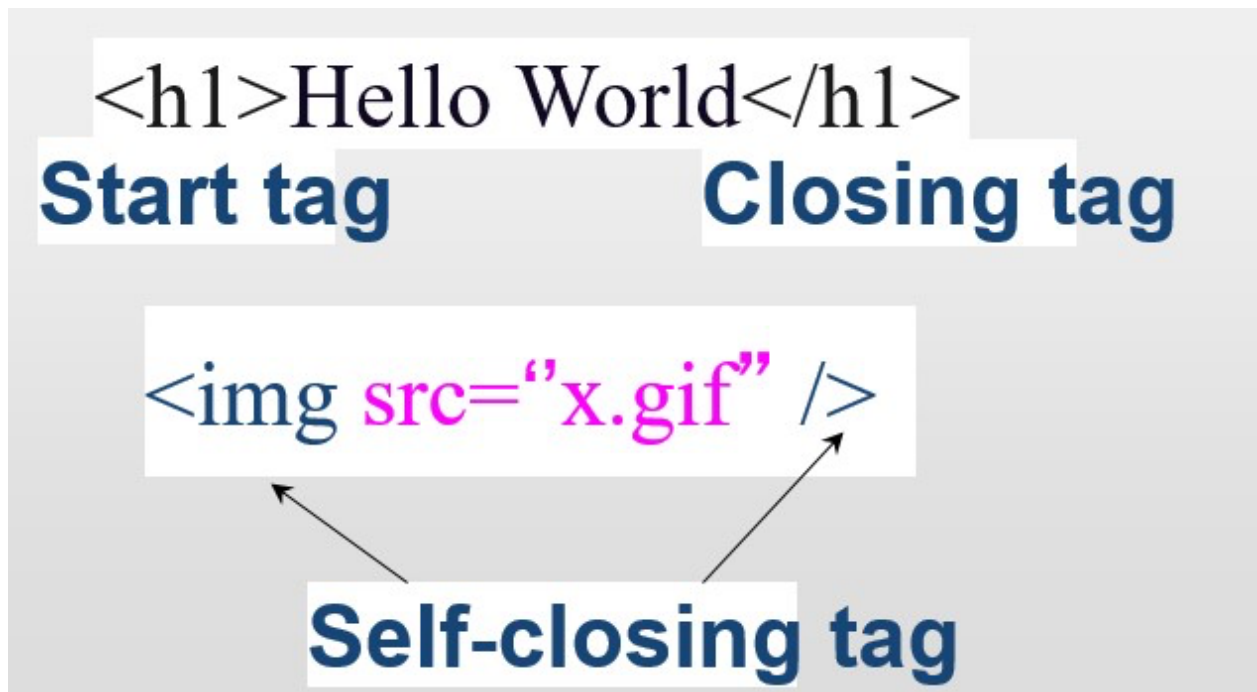
#### *5/. How can change content of HTML file*

If you have any changes about content in your HTML files, you can edit them and remember to save it. You can open file again on browser via “View In Browser”, or if you’ve already opened this file in browser, you can use F5 key for refreshing your site.

## ***II/. HTML tags What***

*is tag?*

To answer this question, you can see image below:



### What is HTML Element?

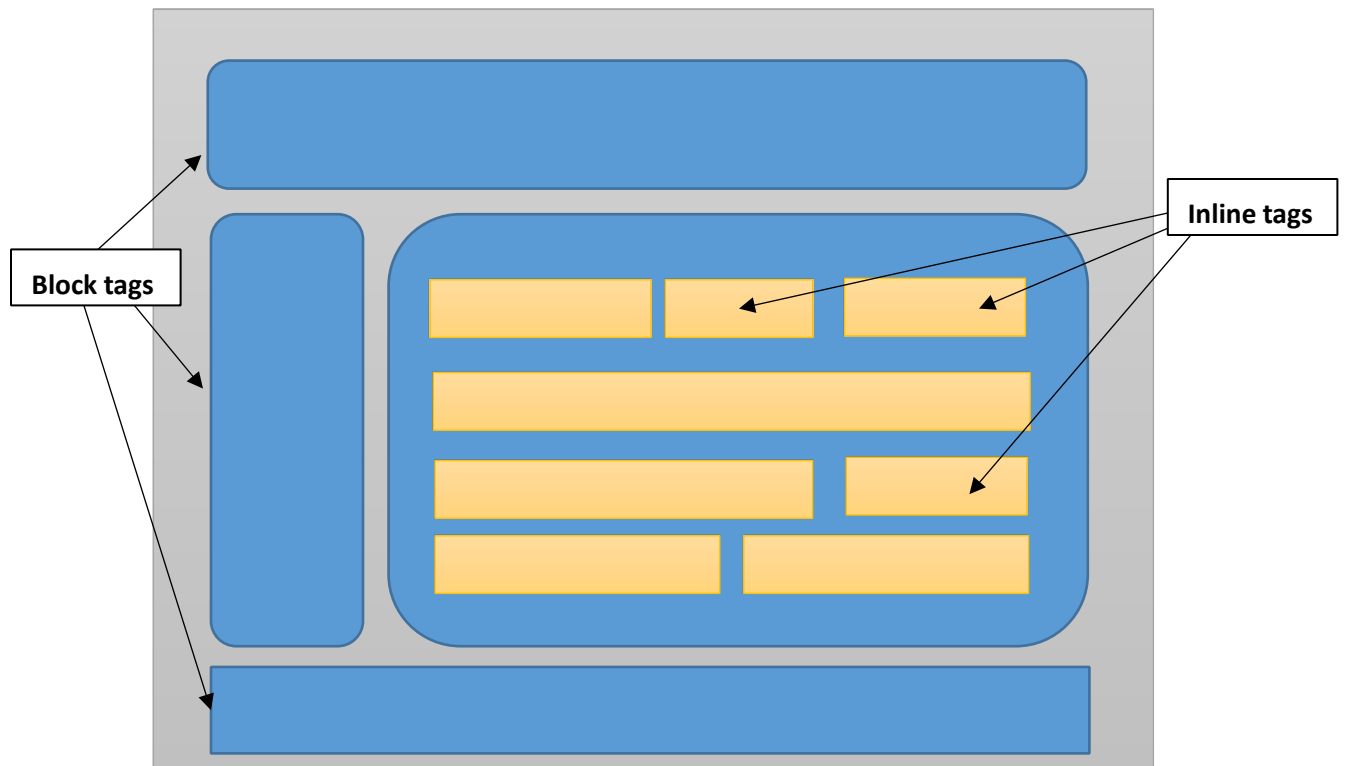
An HTML element is defined by a start tag, some content, and an end tag.

### How many groups of HTML tags?

There are two groups of HTML tags: block display tag groups and inline display tag groups.

- Block display tag groups: are tags used to organize the site locally.
- Inline display tag groups: are tags used to contain content for text or other inline tags.

The tags in the inline group should be surrounded by a group of block tags, because the block tags will take care of the layout of the web page, and the tags in the inline group are only to display the content for the text.



## BLOCK TAGS

1/. *Heading tags* a/. Definition: The heading tag is a tag used to summarize the main content of the web page b/. Syntax:

`<hx>Content</hx>` (*with x is from 1 to 6*)

And `<h1>` defines the most important heading. `<h6>` defines the least important heading. c/. Example:

I have some sentences related to travel in Da Nang

- (1) Da Nang travel guide
- (2) How to move
- (3) Places to eat
- (4) Moving to and from Da Nang
- (5) Moving inside Da Nang city
- (6) Traveling by plane
- (7) Traveling by taxi
- (8) Traveling by motorbike
- (9) Traveling by train
- (10) Resting places
- (11) Delicious roadside restaurant
- (12) Roadside stalls only open in the morning
- (13) Roadside stalls only sell in the evening
- (14) Snacks
- (15) Affordable seafood dishes
- (16) Breakfast stalls
- (17) Large restaurants
- (18) Sea snails with garlic

Please use heading tags to format the above 18 sentences appropriately.

```

<h1>Da Nang travel guide</h1>
  <h2>How to move</h2>
    <h3>Moving to and from Da Nang</h3>
      <h4>Traveling by plane</h4>
      <h4>Traveling by train</h4>
    <h3>Moving inside Da Nang city</h3>
      <h4>Traveling by taxi</h4>
      <h4>Traveling by motorbike</h4>
  <h2>Places to eat</h2>
    <h3>Delicious roadside restaurant</h3>
      <h4>Roadside stalls only open in the morning</h4>
        <h5>Breakfast stalls</h5>
      <h4>Roadside stalls only sell in the evening</h4>
        <h5>Snacks</h5>
        <h5>Affordable seafood dishes</h5>
          <h6>Sea snails with garlic</h6>
    <h3>Large restaurants</h3>
  <h2>Resting places</h2>

```

2/. *Paragraph tag a/*. Definition: A tag used to help the browser identify the paragraph in the HTML page. This tag can only contain tags belonging to the inline group, including: text, image, link, button,...

b/. Syntax:

```
<p>Paragraph Content</p>
```

c/. Example: Example

01:

I have a paragraph like this:

*My name is Ann. I am 20 years old this year, I love to travel with my friends. I'm currently a designer, I've been passionate about it since I was a kid. About my family, my father is a doctor and my mother is a teacher. I also have a brother who is a programmer.*

- If you want to put this paragraph to HTML page. You can try:

```

<p>
  My name is Ann. I am 20 years old this year, I love to travel with my friends.
  I'm currently a designer, I've been passionate about it since I was a kid.
  About my family, my father is a doctor and my mother is a teacher. I also have a brother who is a programmer.
</p>

```

- If you want to down the line for each sentence. You can you <br> tag. Try for this:



```
<p>
  My name is Ann. I am 20 years old this year, I love to travel with my friends. <br>
  I'm currently a designer, I've been passionate about it since I was a kid. <br>
  About my family, my father is a doctor and my mother is a teacher. <br>
  I also have a brother who is a programmer. <br>
</p>
```

- But I want you to divide the paragraph above into three separate paragraphs that talk about personal, professional, and family information. How will you do it?

```
<p>
  My name is Ann. I am 20 years old this year, I love to travel with my friends.
</p>
<p>
  I'm currently a designer, I've been passionate about it since I was a kid.
</p>
<p>
  About my family, my father is a doctor and my mother is a teacher. <br>
  I also have a brother who is a programmer.
</p>
```

### Example 02:

I have a paragraph like this:

*My name is Andy. I want to introduce my projects for you.*

*<01> Projects about healthcare*

*<02> Projects about Agriculture. Registered ® with Protected Rights!*

How can you put this paragraph in HTML page?

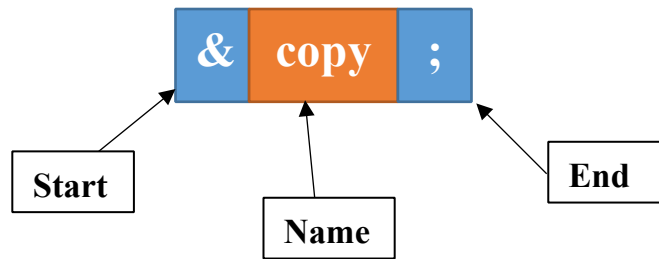
In this example, you need to show special characters in HTML page.

What is special characters in HTML page?

Special characters, normally will have the following characteristics:

- Can't type on keyboard, like: ♠, ♣, ♥, ♦, €, £, ¥, ©, ®,...
- Can be typed on the keyboard, but overlaps with the syntax of HTML, usually the characters "<", ">", "&",...

For these characters, if we want to display them on the web, we must use the web syntax to display special characters instead.



You can see more special characters in HTML at:

<https://www.html.am/reference/html-special-characters.cfm> So,

to solve the solution above, you can try:

```

<p>
  My name is Andy. I want to introduce my projects for you. <br>
  &lt;01&gt; Projects about healthcare <br>
  &lt;02&gt; Projects about Agriculture. Registered &reg; with Protected Rights!
</p>
  
```

3/. *List tag a/*. Definition: Are tags related to creating lists in an HTML page. It consists of 3 basic types: ordered list, unordered list and description list.

b/. Syntax: Ordered

List

```
<ol type = "x">
```

```
  <li> Element 01 </li>
```

```
  <li> Element 02 </li>
```

```
  <li> Element 03 </li>
```

```
  ....
```

```
</ol>
```

(Value "x" can be 1, a, A, i, I)

Unordered List

```
<ul style="list-style-type: x">
```

```
  <li> Element 01 </li>
```

```
  <li> Element 02 </li>
```

```
  <li> Element 03 </li>
```

```
  ....
```

```
</ul>
```

(Value “x” can be “disc”, “circle”, “square” and “none”)

### Description List

```
<dl>
```

```
  <dt> Concept 01 </dt>
```

```
  <dd> Description 01 </dd>
```

```
  <dt> Concept 02 </dt>
```

```
  <dd> Description 02 </dd>
```

```
  ....
```

```
</dl>
```

The <dl> tag specifies a list of description styles, the <dt> tag specifies the term (name), and the <dd> tag describes each term. Note: Lists can be nested c/. Example:

*In a busy day, Mary need to resolve many things in different rooms in her company. She lists many tasks like this:*

*(1) Meeting with HR in company at 7:45 AM*

*(2) Having appointment with design team at 10:00 AM*

*(3) Meeting with her manager at 9:00 AM. She need to prepare some things for this meeting. They includes report of month, report of new employees, finance report.*

*(4) Meeting with accountant in company at 13:00 PM. She need to note something before meeting: bills (In these bills, she needs to list when, where, and how much to export it.).*

*List of bill:*

*Bill in JK Restaurant: last Friday – 1500\$*

*Bill in MGF Restaurant: yesterday – 2000\$*

*Bill in HG Bar: last Sunday – 800\$*

Using lists, make lists for Mary to get things done in the right order and make it easier for Mary to remember the essentials.

You can try this:

```

<ol type="1">
  <li>Meeting with HR in company</li>
  <li>
    Meeting with her manager. She need to prepare:
    <ul style="list-style-type: circle;">
      <li>Report of month</li>
      <li>Report of new employees</li>
      <li>Finance report</li>
    </ul>
  </li>
  <li>Having appointment with design team</li>
  <li>
    Meeting with accountant in company. She need to prepare bills:
    <dl>
      <dt>Bill 01</dt>
      <dd>JK Restaurant</dd>
      <dd>Last Friday</dd>
      <dd>1500$</dd>

      <dt>Bill 02</dt>
      <dd>MGF Restaurant</dd>
      <dd>Yesterday</dd>
      <dd>2000$</dd>

      <dt>Bill 03</dt>
      <dd>HG Bar</dd>
      <dd>Last Sunday</dd>
      <dd>800$</dd>
    </dl>
  </li>
</ol>

```

4/. Table tag a/. Definition: is a tag used to create tables in an HTML page.

Tags used to create common table:

Tag	Function
<table>	Used to identify a table
<tr>	Used to define a row inside a table
<th>	Used to define a cell (header) within the row
<td>	Used to define a (normal) cell within the row

For table templates with 3 components, we also come across the following tags used in table creation:

Tag	Function
<thead>	Used to determine which rows belong to the "head" of the table

<code>&lt;tbody&gt;</code>	Used to determine which rows belong to the "body" of the table
<code>&lt;tfoot&gt;</code>	Used to determine which rows are in the "footers" of the table

- To merge cells horizontally, we put the “colspan” attribute inside the opening tag of the cell where we want to start merging it with the cells on the right.
- To merge cells vertically, we put the “rowspan” attribute inside the opening tag of the cell where we want to start merging it with the cells below.
- To create a title for the table, we need to put the `<caption>` tag at the first position inside the `<table>` element. b/. Syntax:

```

<table>
  <caption> Table Caption </caption>
  <thead>
    <tr>
      <th>Header 01</th>
      <th>Header 02</th>
    </tr>
  </thead>

```

```
<tbody>
<tr>
    <td>Cell 01</td>
    <td>Cell 02</td>
</tr>
<tr>
    <td>Cell 03</td>
    <td>Cell 04</td>
</tr>
</tbody>
<tfoot>
<tr>
    <td>Cell 05</td>
    <td>Cell 06</td>
</tr>
</tfoot>
</table>
```

c/. Example:

*I want you to create this table in HTML page:*

Header 01	Header 02	Header 03
Cell 01	Cell 02	Cell 03
	Cell 04	Cell 05
Cell 06		

Try this:

```

<table border="1">
  <caption align="top">EXAMPLE TABLE</caption>
  <tr>
    <th>Header 01</th>
    <th>Header 02</th>
    <th>Header 03</th>
  </tr>
  <tr>
    <td rowspan="2">Cell 01</td>
    <td>Cell 02</td>
    <td>Cell 03</td>
  </tr>
  <tr>
    <td>Cell 04</td>
    <td>Cell 05</td>
  </tr>
  <tr>
    <td colspan="3" align="center">Cell 06</td>
  </tr>
</table>

```

## 5/. Semantic tags

Semantic tags are tags used to clearly describe the structural meaning of that element to browsers and programmers. In a simpler way, it means that just by reading the names of these tags, we can understand what the content inside this tag is about.

There are some semantic tags in table below:

Semantic tag	Function
<header>	The <header> element defines the beginning of a document page or the beginning of a paragraph
<nav>	The <nav> element is used to define a set of in-page navigation links such as menus



<section>	Section is a group of similar content with the same topic
<article>	The <article> element is used for independent content and contains its own content
<aside>	The <aside> element defines the content next to the page's content
<footer>	The <footer> element defines the end of a document page or the end of a paragraph
<figure>	Mark only one image in the document
<figurecaption>	Defines a caption for the <figure> tag

Example:

*I have some information about a new company in New York:*

- (1) *Name: JK Group Company*
- (2) *Slogan: Towards the value of health is the happiness of each employee*
- (3) *Director: Jay Chung*
- (4) *About director: Doctor of Health - graduated from the University of Queensland*
- (5) *About the company: The company develops smart applications with the purpose of monitoring each person's health situation.*
- (6) *Contact: email us at jkgroupcompany@jk.us*
- (7) *Copy right information: © 2018 - 2022 jkgroup.com*

If you put these sentences in HTML page with semantic tags, how can you do?

## INLINE TAGS

*1/. Link tag a/. Definition:* Links are an integral part of every website. The tag used to create links in HTML is the <a> tag. With the “href” attribute set to a hyperlink that points to pages, files, email addresses, any kind of URL... Content in the <a> tag can be text, images...indicates the page linked to.

In addition, the target attribute determines what appears in the browser window when the user clicks the link. You can set values like: \_self, \_blank,... b/. Syntax:

```
<a href="x" target="y">Link</a>
```

(With **x** is a link and **y** can be `_self`, `_blank`, ...)

c/. Example:

*Create contact information of Mary follow like this:*

- Website: [www.mary-world.com](http://www.mary-world.com)
- Email: [mary\\_24@jk.us](mailto:mary_24@jk.us)
- Phone: +1 (202) 861-0737

How can you create this information on HTML page?

You can try:

```
<a href="http://www.mary-world.com" target="_blank">Mary's website</a>  
<a href="mailto:mary_24@jk.us">Email to Mary</a>  
<a href="tel:+1 (202) 861-0737">Phone to Mary</a>
```

2/. Media tags: image, video, audio

2.1/. Image tag a/. Definition: is a tag used to insert images into a web page.

b/. Syntax:

```

```

(With **x** is path of image and **y** is alternative value for image)

Some basic attributes of the `<img>` tag:

- “src” attribute: Specify the path to the image file you want to insert into the web page.

There are two types of paths, relative paths and absolute paths.

+ Relative file paths in HTML specify a file relative to the current page's location.

+ The absolute file path in HTML specifies the full URL.

- “alt” attribute: Specifies a textual content to be displayed instead when the path to the image file is incorrect.

- “width” attribute: Set the width of the image. - “height” attribute: Set the height of the image. c/. Example:

*I have an image like this:*



How can I put this image to HTML page?

You can try:

```

```

2.2/. *Video tag* a/. Definition: is a tag used to insert videos into a web page. b/. Syntax:

```
<video src="x"></video>
```

(With x is path of video)

Some basic attributes of the <video> tag:

Attribute	Function
src	Specify the path to the video file you want to play
controls	Defines "the movie player controls should be displayed"
autoplay	Set action: "After the web page is loaded, the movie player will automatically play the video"
loop	Set the action "Video will automatically repeat after each end"
muted	Specifies whether the movie player will be set to "mute" by default.
preload	Determines whether the video file is loaded at the same time as the page loads
poster	Defines an image file to use as a video avatar before playing
width	Specifies the width of the movie viewer

height	Determines the height of the movie viewer
--------	---

2.3/. *Audio tag* a/. Definition: is a tag used to create a "music player"

for the website.

b/. Syntax:

```
<audio src="x"></audio>
(With x is path of audio)
```

Some basic attributes of the <audio> tag:

Attribute	Function
src	Specify the path to the audio file you want to play
controls	Defines "the music player controls should be displayed"
autoplay	Set action: "After the web page is loaded, the music player will automatically play the audio"
loop	Set the action "Audio will automatically repeat after each end"
muted	Specifies whether the music player will be set to "mute" by default.
preload	Determines whether the music file is loaded at the same time as the page loads

### <SPAN> TAG AND <DIV> TAG

1/. *<span> tag* a/. Definition: Used to group inline elements together, convenient for CSS formatting. Usually it is used to contain data (text), containing other inline elements.

b/. Syntax:

```
<span><a href=""></a><img src="" alt="">.....</span>
```

2/. *<div> tag*

a/. Definition: is a tag used to group multiple HTML elements together. The <div> tag is a block marker that contains many other tags within the block. As the name suggests, the <div> tag helps HTML documents to be divided into separate sections (blocks). b/. Syntax:

```
<div>
<header>Header</header>
```



```

<section>
<p>Paragraph content</p>
</section>
.....
</div>

```

## B. PART 02

I have Andy and Mary's information. They are displayed in the table below:

	Andy	Mary
Avatar		
Age	23	25
Place to live	<i>London</i>	<i>Sydney</i>
Hobby	<ul style="list-style-type: none"> <li>○ Reading books</li> <li>○ Shopping</li> </ul>	<ul style="list-style-type: none"> <li>▪ Travelling</li> <li>▪ Surfing the Internet</li> </ul>
Job	Programmer	Designer
Contact	andy_23@gmail.com	mary_25@gmail.com
Website	<a href="http://andy-j.uk">http://andy-j.uk</a>	<a href="http://mary-w.au">http://mary-w.au</a>

I want to show this information by 2 ways in HTML page.

(1) Show information of Andy and Mary in sequence from up to down.

(2) Show information of Andy and Mary with table.

How can you do this?

Guide:

(1)

You can use `<p>` tag to show information of Andy and Mary.

You can use `<ul>` tag to show Hobby information.

You can use link tags to show Contact and Website information.

With Andy and Mary, you can use `<div>` tag to divide 2 information for styling easily.

(2)

You need to create table with `<table>` tag

With “Avatar” row, there are two images. You use `<img>` tag to create images.

In “Place to live” row, you can use `<em>` tag to emphasize content.

In “Hobby” row, you will use unordered list via `<ul>` tag.

With “Contact” and “Website” row, you can use link tags via `<a>` tag.

Code (1):

```
<div>
  <section>
    <h2>Information of Andy</h2>
    <p>Avatar: </p>
    <p>Age: 23</p>
    <p>Place To Live: <em>London</em></p>
    <p>Hobby:
      <ul style="list-style-type: circle;">
        <li>Reading books</li>
```

```

        <li>Shopping</li>
    </ul>
</p>
<p>Job: Programmer</p>
<p>Contact: <a href="mailto:andy_23@gmail.com">andy_23@gmail.com</a></p>
<p>Website: <a href="http://andy-j.uk">Andy's website</a></p>
</section>
</div>
<div>
    <section>
        <h2>Information of Mary</h2>
        <p>Avatar: </p>
<p>Age: 25</p>
<p>Place To Live: <em>Sydney</em></p>
<p>Hobby:
    <ul style="list-style-type: square;">
        <li>Travelling</li>
        <li>Surfing the Internet</li>
    </ul>
</p>
<p>Job: Designer</p>
<p>Contact: <a href="mailto:mary_25@gmail.com">mary_25@gmail.com</a></p>
<p>Website: <a href="http://mary-w.au">Mary's website</a></p>
    </section>
</div>

```

Code (2):

```

<table border="1">
  <caption align="top">INFORMATION TABLE</caption>
  <thead>
    <tr>
      <th></th>
      <th>Andy</th>
      <th>Mary</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>Avatar</td>
      <td></td>
      <td></td>
    </tr>
    <tr>
      <td>Age</td>
      <td>23</td>
      <td>25</td>
    </tr>
  </tbody>
</table>

```



```

</tr>
<tr>
  <td>Place To Live</td>
  <td><em>London</em></td>
  <td><em>Sydney</em></td>
</tr>
<tr>
  <td>Hobby</td>
  <td>
    <ul style="list-style-type: circle;">
      <li>Reading books</li>
      <li>Shopping</li>
    </ul>
  </td>
  <td>
    <ul style="list-style-type: square;">
      <li>Travelling</li>
      <li>Surfing the Internet</li>
    </ul>
  </td>
</tr>
<tr>
  <td>Job</td>
  <td>Programmer</td>
  <td>Designer</td>
</tr>
<tr>
  <td>Contact</td>

```

```
<td><a href="mailto:andy_23@gmail.com">andy_23@gmail.com</a></td>
<td><a href="mailto:mary_25@gmail.com">mary_25@gmail.com</a></td>
</tr>
<tr>
<td>Website</td>
<td><a href="http://andy-j.uk">Andy's website</a></td>
<td><a href="http://mary-w.au">Mary's website</a></td>
</tr>
</tbody>
</table>
```

## C. PART 03

1/. Create table below in HTML page:

Specification Table with Hours and Marks

Unit No.	Unit Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
I	Introduction to Internet Technology	2	4	4	0	8
II	Basics of HTML & CSS	6	0	2	6	8
III	Active Server Pages 3.0	6	4	8	0	12
IV	Server Side Coding with VBScript and XML	8	2	4	8	14
V	ASP Objects & Components	10	4	4	6	14
VI	Accessing database with ASP & ADO	10	4	4	6	14
	<b>Total</b>	<b>42</b>	<b>18</b>	<b>26</b>	<b>26</b>	<b>70</b>

2/. Create table below in HTML page:

Text Formatting Tags

HTML Tag	Output
normal text	hello world
Font & its attributes	hello world
<B>	<b>Bold</b>
<I>	<i>Italic</i>
<U>	<u>Underline</u>
<EM>	<i>Emphasis</i>
<STRONG>	<b>STRONG</b>
<TELETYPE>	TELETYPE
<CITE>	<i>Citation</i>
<STRIKE>	<del>strike-through text</del>
<BIG>	text in a big font
<SMALL>	text in a small font
<SUB>	a <sub>b</sub>
<SUP>	a <sup>b</sup>

3/. Create HTML page with content below:

## HTML List: Ordered, Unordered & Definition List

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Following is the list of proposed student activities like:

1. Develop programs related with unit vice topics in computer laboratory.
  2. Develop any module of to be useful in real life application.
  3. Multimedia presentation of module developed by students.
- 

### List of Software/Learning Websites

- ASP Tutorial - W3Schools  
[www.w3schools.com/asp](http://www.w3schools.com/asp)
  - Classic ASP Tutorials & Articles - Web Wiz  
[www.webwiz.co.uk](http://www.webwiz.co.uk) - Knowledgebase
  - HTML Tutorial - W3Schools  
[www.w3schools.com/html](http://www.w3schools.com/html)
  - CSS Tutorial  
[www.csstutorial.net](http://www.csstutorial.net)
  - VBScript Tutorial - Tutorials Point  
[www.tutorialspoint.com/vbscript/index.htm](http://www.tutorialspoint.com/vbscript/index.htm)
  - ADO Tutorial - W3Schools  
[www.w3schools.com/ADO/default.asp](http://www.w3schools.com/ADO/default.asp)
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HTML

Hyper Text Markup Language

XML

eXtensible Markup Language