## App Academy – Week 1: HTML

#### Tips:

* **Folders:** Be careful which folder you save your work into. Very often, people create a folder, but save their files to another folder by mistake, and then they cannot find their files.
* **Extension file names:** the extension file name is the part of the name after the 'dot'. For example, the file index.html has an extension filename of html. The extension file name is very important! Having the wrong extension file name will cause your page not to load in the browser. When you are saving your file for the first time, check (and then double-check!) that you have the correct extension file name: .html not .txt
* **Double extension file name:** If you are not careful, your file can be saved with a double extension filename like index.txt.html.
* **Avoid spaces in your filenames:** about-us.html   --> Right vs. about us.html --> Wrong
* **Use small (lowercase) letters:** about.html --> Right vs. ABOUT.HTML --> Wrong
* **Use a descriptive name:** lions.html --> Right vs. p1532.html --> Wrong
* **Keep the names short:**  lions.html --> Right vs. a-page-about-lions-in-pine-city-zoo.html --> Wrong
* **HTML tags:** this is what an open tag looks like:<html>
* **HTML tags:** this is what a close tag looks like:</html>
* **HTML tags:** the difference between an open tag and a close tag is the forward slash: /
* **HTML tags:** be careful not to use the back slash \ in your tags. This is wrong.
* **Save your work:** make it a habit of saving your work regularly.

#### Popular web file types:

* **.html and .htm:** As the format suggests, all HTML files are stored in either of these formats.
* **.css:** Cascade Style Sheets are stored in .css files.
* **.jpeg .jpg .png .gif:**These are image types. See the next section to decide which image type is best for different purposes.
* **.mp4 .webm .ogg:**These are video file formats.
* **.xml:** XML files are usually used for configuration information.
* **.php:**PHP scripts contain backend server-side scripts for your application.

### Web images:

* The src attribute defines the url (web address) of the image. You can use PNG, JPEG or GIF image files. Make sure you specify the correct image file name in the src attribute.
* **Remember:** the image name is always case sensitive. In other words, if your image is called "Car.jpg" (with an uppercase "c") and you type "car.jpg" (with a lower case "c") then your image will not be found.
* Make sure you have the correct extension file name too. These are also case-sensitive, so .JPG and .jpg are regarded as totally different.
* **Double quotes**: make sure you have your double quotes " in place, as in the code snippet above.
* **Folder name**: ensure you have the correct folder name before the file name. So if your file is called "car.jpg" and is stored in a folder called images, then you will type src="images/car.jpg"
* **Case sensitive**: as mentioned in the lesson, your computer will recognise the file name image.jpg and Image.jpg as two completely different files. So make sure you match the correct case of each letter.
* **Forward slash**: are you using the forward slash / and not the back slash?

#### Image file format

The three main digital image types are: **gif**, **jpg** (or **jpeg**) and **png**; and jpeg images can also be used in print files as well.

Image resolution is the detail an image holds. The term applies to raster digital images, film images, and other types of images. Higher resolution means more image detail. Image resolution can be measured in **dpi** or "dots per inch". Web images are typically **72 dpi**, making them load quickly.

Gif:

* great for creating very low resolution files
* support transparency: allows you to place the gif over any color background or even photos, and you won’t see a border or background in the image
* typically used for simple logos, icons, or symbols
* Using a gif for photos is not recommended, because gifs are limited to 256 colors. In some cases you can use even less. The less colors that are in your image, the smaller your file size will be.
* Gif files also support a feature called interlacing, which preloads the graphic. It starts out blurry and becomes focused and crisp when it is finished downloading. This makes the transition for your viewer easier, and they don’t have to wait as long to see logos or icons on your site.
* Gifs also support animation. Gifs don’t support the level of animation that Flash files do, but it still allows you to add movement or transitions to your site, without a lot of programming or coding. More advanced web designers and developers tend to use jQuery to create animated effects.
* Gif files are also compressed, which gives them a small file size.
* You mainly use a gif file format for logos and graphics with solid areas of colour. You wouldn’t use a photographic image, or a graphic with gradients.

Jpeg:

* Jpeg files can be relatively small in size, but they still look crisp and beautiful.
* Jpegs support up to 16.7 million colours, which makes them the right choice for complex images and photographs. With the wide range of colours, you can have beautiful imagery without a bulky file size.
* With new responsive techniques, you can also have flexible images without large loading times.
* There are also progressive jpegs, which preload similar to interlaced gifs. They start out blurry, but come into focus as their information loads.

PNG:

* PNG files were developed to build upon the purpose of gifs: the ability to incorporate low-resolution images that load quickly but also look great, and support transparency.
* PNG transparency is different from Gif transparency, because they can have different levels of transparency, whereas Gifs are either transparent or opaque.
* PNG files are **lossless**, which means that they do not lose quality during editing. This is unlike jpegs, where they lose quality.
* PNG files tend to be larger than jpegs, because they contain more information, and are lossless.
* PNG files do not support animation. For this purpose, a gif should be used.

#### Troubleshooting Images on HTML:

When resizing images in HTML, USE DOUBLE QUOTES: check that you've used double quotes to define the width and height. For example, width=120 is incorrect but width="120" is correct.

<body>

<p>Setting image width and height</p>

<img src="images/boat.jpg" width="150"/>

<img src="images/boat.jpg" height="100"/>

</body>

* Spelling: be careful with how you spell **img** and **src**.
* Double quotes: make sure you have your double quotes " in place, as in the code snippet above.
* Folder name: ensure you have the correct folder name before the file name. So if your file is called **"car.jpg"** and is stored in a folder called **images**, then you will type **src="images/car.jpg"**
* Case sensitive: as mentioned in the lesson, your computer will recognise the file name **image.jpg** and **Image.jpg** as two completely different files. So make sure you match the correct case of each letter.
* Forward slash: are you using the forward slash / and not the back slash?

### Hyperlinks:

In HTML, links are defined with the **<a>**tag with an **href** attribute that specifies the destination address (*full web address {https://www….} or local directory location*). The **link text** is the visible part (visit our website) that will be displayed to the user.

e.g., <a href="*full web address*">*link text to display*</a>

<a href="http://www.google.com">Click here to go to Google</a>

<a href="http://www.compukids.me">Click here to go to CompuKids</a>

## App Academy – Week 2: CSS

#### Tips:

* The CSS style sheet must be linked to the html file in between the <head> </head> tags.
* Remember to use double quotes: <link rel="stylesheet" href="style.css">
* **Spelling**: In CSS we spell the word as color not colour.
* Measurement units: in lines like “font-size: 14px;” where you need to specify a measurement unit like pixels, always double-check that the unit px is there. If you forget to put this, your font will not resize.
* Multi-word properties MUST BE hyphenated, e.g., **background-color**, **font-family**, etc.
* Use the exact same id name in your HTML and CSS files when defining **<div>** boxes.   
  E.g., HTML: <div **id=“menu-box”**>; CSS: **#menu-bar** a.hover{ …
* When using a class name, always prefix the name with a period, e.g., “ .gallery img { ”

#### Syntax:

SELECTOR **curly bracket** PROPERTY *colon* VALUE *semi-colon* **curly bracket**

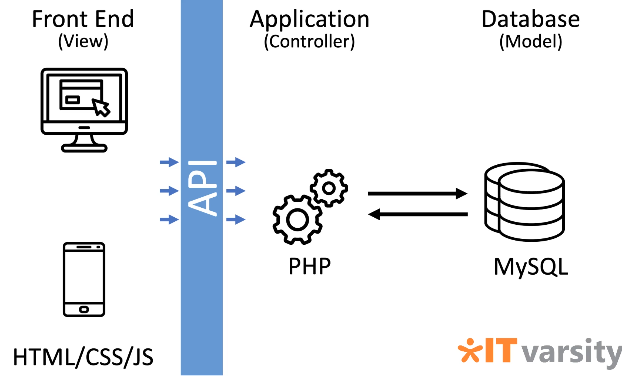
h1 **{** color: green ; **}**

h1**{**  
 color: green;   
 **}**

## App Academy – Week 6: API

An API, or Application Programming Interface, is a set of rules and protocols that allows different software applications to communicate with each other. It acts as a messenger, enabling one application to request data or functionality from another without needing to know the internal workings of that application. Think of it like a waiter in a restaurant: you (the client application) tell the waiter (the API) what you want (a request), and the waiter relays that request to the kitchen (the server application), bringing back the response (your food).

<https://www.mulesoft.com/api/what-is-an-api#:~:text=What%20is%20an%20API?%20(Application%20Programming%20Interface)%20%7C%20MuleSoft&text=A%20beginner%2Dfriendly%20guide%20to,best%20practices%20for%20using%20them.>



* Our contactBook app will ask ITvarsity’s API for information from the database.
* API will speak to the server application in PHP language.
* The server application interacts with the MySQL database to find and retrieve the requested data.
* The server application passes the information back to the API written in PHP.
* The API translates the information before giving it back to our contactBook app.