**JavaScript Code Placement**

JavaScript is a client-side scripting language. This means that it doesn’t have to be sent to a server in order to function. This is where it becomes very powerful for web pages and apps. One of the additional newer features of JavaScript is the asynchronous interaction that can take place with a server. This allows for JavaScript to be able to communicate with a server in the background and not interrupt some user interaction.

Getting started with JavaScript is very easy compared to some other languages. The only real requirements are a text editor or IDE and an environment with a JS engine to run the code. The great part is that all modern web browsers come with the ability to run JS code. One can use any text editor or IDE and the file will have to be saved with a .js in order to tell the editor what syntax should be used. It is recommended to use a good IDE for better code completion and environment.

JS can be placed in a few locations and still have it run properly and function well. There are some pros and cons to this placement that we can touch on as well. There are three main places that one can put our JS code and they are in the <head>, <body> or in an external file that will be linked.

When placed in the <head> of an HTML document the JS code will be called before the web page fully loads based on how the file is parsed on loading. This approach isn’t always a good idea depending on the amount of JS used and how fast you need the rest of the page to load. It is common to link our external JS files here as well.

JS can be placed really anywhere in the <body> of our HTML document. We run into similar issues that placing JS code in the head can have when we place it in the top of the <body>. This is for the same reasons and it will cause the page to stop parsing until the script is downloaded. One of the work arounds is to place the JS code at the bottom of the <body> in our HTML. This allows for the page to usually be fully loaded and then it downloads the JS code. This can help with smaller sites at times, but it is still an outdated approach as with larger sites we don’t want to have to wait until a whole site loads to start downloading the JS code. A newer method uses async and defer attributes. This tells the browser that it is ok to download the script in the background while simultaneously still parsing the website so there is a lot less lag time.

Some of the major advantages to using JavaScript is the speed, simplicity and its popularity. Due to the fact it is run on the client side this makes it oftentimes a lot faster. JS also uses very similar syntax to Java which is a very widely used language as well so it can be easier to code with. In addition, lastly it is a very popular language which means there are tons of resources and access to the language. It is used across the world and heavily in the  web application world which continues to grow each and every year.

Resources:

<https://stackoverflow.com/questions/436411/where-should-i-put-script-tags-in-html-markup>

<https://www.bigcommerce.com/ecommerce-answers/what-javascript-and-why-it-important/>

<https://www.freecodecamp.org/news/the-advantages-and-disadvantages-of-javascript/>