CISC 3300 Homework 6: jQuery, AJAX, APIs

1. **What is HTTP? What are the different HTTP request methods and how do they differ?**
   - HTTP Stands for hyper-text transfer protocol and is a protocol that allows for the transfer of data across the web. There are several request methods that are used to view, modify, and do other things to data.
     - **Get**
       - This method requests a specified resource- should only be used when retrieving data
     - **Put**
       - Updates an existing resource
     - **Post**
       - Places data into the resource specified, or can create a new resource
     - **Delete**
       - Deletes resource
     - **Patch**
       - Partially modifies a resource, rather than replacing it entirely
     - **Head**
       - Requests the header of a resource but not the body
     - **Options**
       - This shows what http methods are supported for the url
     - **Trace**
       - Used so that a user may see what changes have been made by an intermediate server.

2. What is an API? What is JSON?

API stands for application programming interface and allows applications to communicate with each other. It creates the methods and data formats that applications use when requesting/exchanging information, features, and functionality.
JSON stands for Javascript object notation and is a format of data interchange that contains key-value pairs and arrays. It is based on javascript but is language-independent. It is widely used as a format when transmitting data between a server and client inside a web application.

3. What is AJAX? What is meant by asynchronous code?

AJAX is asynchronous javascript and XML and allows the developer to create a web application that doesn't have to reload the entire page whenever an html event happens. This includes but is not limited to button clicking, form submitting, form validation, and infinite scrolling. This basically means that web pages can send and recieve data asynchronously without interfering with the display that the user sees on the page in front of them.
Asynchronous code basically means that it is code that does not have to execute in sequential order from top to bottom. It allows certain parts to be excecuted independently from the main flow of the program. For Javascript, this is seen with callbacks and async/await.