Explanation for Solution

The solution implemented for the task given was completed using the languages HTML and Javascript along with incorporating an API. The job required a web application that accepted the user inputs of a location, radius, and optional equipment type. Loops, IF statements, and a mathematical formula, were the basis of this solution.

An HTML form was implemented to accept the user input which would be used in the search to output the desired carriers if the criteria were met. I searched for an API that had information on locations. The API found included the geological coordinates of the locations searched using it. I then decided to use the coordinates in conjunction with the radius to be given by the user to search and output results. The formula used was searched for and then implemented into the program. The formula took the coordinates (latitude and longitude), of two locations and returned the distance between them in kilometers.

Javascript was used to implement the formula, API, and the different checks and iterations to output results to the user. I had the inputs given by the user (location, radius, and equipment type) stored in their respective variables to complete the task. The data from the JSON which contained the carriers were stored and implemented. The solution loops through the carrier list and calculates each distance from the location given by the user (e.g Brooklyn, New York). The distances calculated were each compared to the radius given and if equal to or less than, the corresponding data would be outputted to the user. The optional field was implemented using an IF statement which checked if the field was empty or not and if populated another check was made before outputting the results to the user.

Sample Input

Note-In order for the web application to work a live server extension was utilized within that of VS Code.

Location: Brooklyn, New York
Radius: 3
Equipment Type: VanorReefer