ASSIGNMENT 4

Note: For Q1-Q2, no external library except for d3 is allowed. **What to submit?**

Q1: chart.plugin.js (js code), config.json (json file of configuration), q2.jpg (screenshot of the visualiation)

Q2: q2.html (d3 code) and q2.jpg (screenshot of the visuzliation)

Q1. LOADING CHART AND MAP ON VGA FRAMEWORK, MARK: 50 [USE OF AI-GENERATED CODE ALLOWED]

Read the slides (Framework.pptx in Canvas) and complete the tasks 1-6 discussed in the Tutorial, which will help you to complete this question. You are recommended to ask question to Arman (arman.heydari@usask.ca) if you need help to complete this question.

For this question you need to create an interactive line chart using D3.js that visualizes the relationship between age and leisure hours throughout different life stages (leisure_data.csv). Use the provided task 6, in lab week 6 of the tutorials base code within the VGA framework as your starting point. Your visualization should include a properly labeled line chart that plots all data points from the provided CSV file containing age and leisure hours data. Ensure your chart includes appropriate axes, labels, and a title. Each data point should display its values underneath (e.g., "Age: 25, Leisure 4.2") when the user hovers the mouse on that data point. You should also load a map layer with proper center and zoom so that the roads of Saskatoon are visible.

This is an example of how the final output should be:
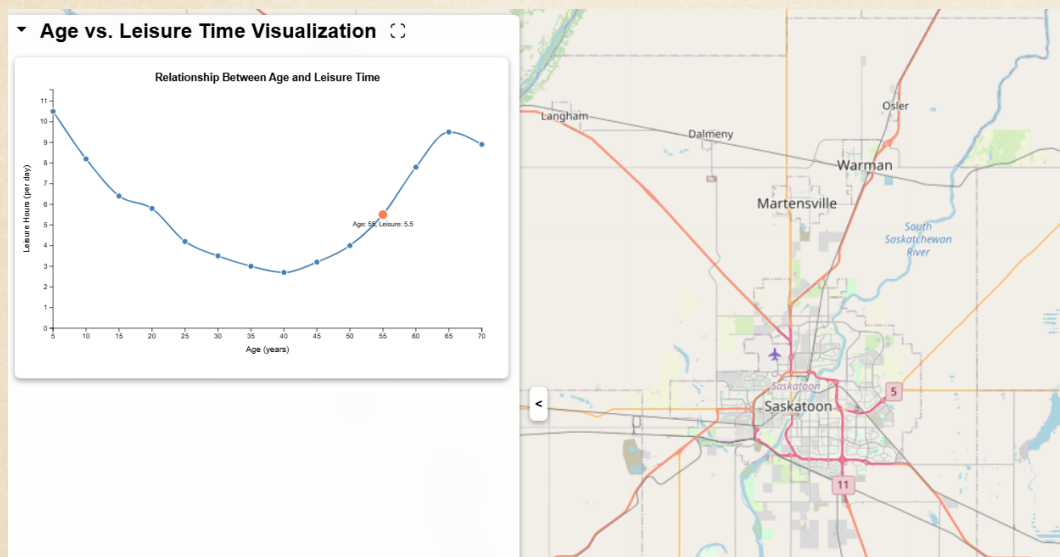
Q2. Creating a Network Visualzation, Mark : 50 [Use of AI-generated code allowed]

You are given two datasets. The dataset gemstone15.csv is a list of the gemstone trade transactions among countries in 2015. The lat and lon of the countries are located in CountryList.csv Write a d3 code to Read CountryList and gemstone15 to create a trade network visualization.

Create the nodes for the countries and edges that represent the trade relationships. Each edge represents an import or an export. Therefore, there can be at most two edges between two countries (one for import and the other for export).

A pair of countries may have many transactions in the dataset, so sum all imports and all exports to create one edge for import and the other for export. If a pair of countries do not have trade relations, then they must not be connected by an edge.

Clear up the layout by mapping import and export edge weights to the opacity. An example of the expected output is given at the end of this document.