**CSC 173 Data Visualization**

**Instructor – Dr. Anna Baynes.**

**4th Question in Mini Challenge 1**

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**1. "Reflection: What was the most difficult aspect of working with this knowledge graph?**

The knowledge graph was difficult to manipulate due to the depth and dependence of the data. Knowledge graphs are difficult to investigate and evaluate for insights due to their inherent complexity. Significant effort and analysis were required to comprehend the graph's fundamental structure and identify meaningful patterns. As the dataset increased in size and complexity, it became more challenging to manage the scalability and performance of the knowledge graph. Another difficulty was maintaining the knowledge graph's data's precision and consistency. Deleting duplicates, solving contradictions, and dealing with missing data involved meticulous data purification and preparation. Integrating data from multiple sources and harmonising disparate data models added a layer of complexity.

**2. Did you have the tools and resources you needed to complete the challenge?**

Existing technologies and libraries were sufficient tools and resources to accomplish the project. Interactive visualizations and data analysis were created on a solid basis of JavaScript, D3.js, and Plot.js. These programmes offered various options for working with data, displaying it visually, and interacting with it, enabling further exploration of the knowledge graph. The availability of a suitable programming environment and documentation for these tools also aided the development process.

**3. What additional resources would have helped you?**

We had the resources to finish, but we needed more help. Initially, more complete knowledge graph materials would have been helpful. These sources could have revealed intricate chart best practises, advanced methods, and common issues. More extensive and diversified datasets would have been helpful. A larger dataset may reveal complex knowledge network patterns. Pre-trained models or algorithms for knowledge graph analysis may have helped. A knowledge graph analysis hub would have been helpful. These platforms could encourage cooperation by giving professionals a place to talk business. The resources allowed completion. Technical documentation, different datasets, more advanced algorithms, and collaboration space would have made things easier. These materials would have helped knowledge graph practitioners start and improve their analysis.