

# COMP4448 Assignment 1

## Context

This assessment will examine the student's understanding of the data types and the fundamentals of Data Visualization. In particular, students are asked to write a short report

## Topic: How would you visualize your data?

### Preparation:

To start your assignment, you first need to select the data you wish to visualize. These data might be from your previous studies, data from your work, any research project or some data you've obtained from elsewhere as long as your data contain **at least 5 attributes (columns) with at least 3 different data types**.

### Tasks:

In your report, you are asked to describe and argue with appropriate references:

1. The nature of the data: **what do those data represent/describe? how were they originally collected?** (This is not asking where 'you' obtained this dataset from.)
2. Who are the **typical consumers of such data?**
3. How are those data **typically depicted or conveyed to those audiences? Present your explanation/argument with respect to data types.**
4. **What sort of questions are asked and answered through** such typical visualization you've mentioned in #3?
5. What might be **typical mistakes** people make in **depicting those data?**
6. How would **\*YOU\* visualise those data differently? Using the symbolic representations from Semiology of Graphics**, describe and explain how you would define the imposition of your visualisation, and how you would assign each data type to various visual variables.
7. **Provide a sample of your visualization** based on the symbolic representation from #6. (You can use any visualization tool to create your visualization or you can provide hand sketches).

8. Explain how you derived your visualisation in #7 from the symbolic representation in #6.
9. Derive an equivalent but different symbolic representations of your answer from #6, and explain the equivalency.
10. Provide an example of your alternative visualization derived from the symbolic representation from #9, and describe/explain how you assigned each data type to be used for the axes and various visual variables. **(You can use any visualization tool to create your visualization or you can provide hand sketches).**

## Rubric

Understanding Data Types and Semiology of Graphics		
Criteria	Discription	Pts
1. Understanding Dataview longer description	Ability to understand how data are acquired and what they represent.	/ 1 pts
2. Understanding Audienceview longer description	Describe who is the typical audience/consumer of the data and how they would utilize the data.	/ 1 pts
3. Understanding Data Typesview longer description	Ability to understand the nature of the data type.	/ 1 pts
4. Understanding Visualisation and Associated Questionsview longer description	Ability to understand how visualisation is used to answer questions.	/ 1 pts
5. Understanding Bad Visualisation.view longer description	Ability to identify inappropriate use of visualisation.	/ 1 pts
6. Understanding and using the Semiology of Graphicsview longer description	Ability to analyse the visualization using the information from Semiology of Graphics.	/ 4 pts
7. Implementation of	Ability to utilise the visualisation tools and	/ 2

Visualisationview longer description	symbolic representation to generate visualisation.	pts
8. Implementation of symbolic representationsview longer description	Ability to utilise the symbolic representation to derive visualizations.	/ 3 pts
9. Using the Semiology of Graphicsview longer description	Ability to utilise the symbolic representation from the Semiology of Graphics.	/ 3 pts
10. Application of the Semiology of Graphicsview longer description	Ability to utilise the symbolic representation to derive visualizations.	/ 3 pts
Total Points: 20		

Using your **student ID** as a file name would be reasonable.