School of Science, Computing and Engineering Technologies

COS30045

LAB 4.1 Design Studio

Overview

In this lab you will be given a sample data set and asked to identify the different data and attribute types. You will also think about some questions about this data set that might be answered by a visualisation.

ardd_fatalities_Jan2020_0.xlsx (download from Canvas)

Download and review this data set before attempting this exercise.

1 Interpreting the data set

Complete the LAB 4.1 Quiz.

2 Visualisation Design

Think of three questions you would like to answer with that require a data visualistion.

For each data question you will need to consider the following:

Which data attributes (columns) do you need to answer this question?

Do you need to transform any of the data?

Does the data type change when you transform the data? If so how.

Make a sketch of how you think your visualisation might look and add to this document.

Your Question 1: Which months that road accidents occur the most?

- Data Attributes: Month, Crash ID
- Data Transformation: We need to count Crash ID to conclude the number of accidents occur in each month.
- Data Type Change: If data transformation is performed, the data type will change from Crash ID (quanlitative data) to the number of accidents (quantitative data)
- Visualization Sketch: A bar chart with Month on the x-axis and the number of accidents on the y-axis.

Your Question 2: Is there a correlation between the number of accidents and years?

- Data Attributes: Year, Crash ID
- Data Transformation: We need to count Crash ID to conclude the number of accidents occur in each year.
- Data Type Change: If data transformation is performed, the data type will change from Crash ID (quanlitative data) to the number of accidents (quantitative data)
- Visualization Sketch: A scatter plot or a line chart with Year on the x-axis and the number of accidents on the y-axis.

Your Question 3: Which states that road accidents occur the most?

- Data Attributes: State, Crash ID
- Data Transformation: We need to count Crash ID to conclude the number of accidents occur in each month.
- Data Type Change: If data transformation is performed, the data type will change from Crash ID (quanlitative data) to the number of accidents (quantitative data)
- Visualization Sketch:
    + A bar chart with State on the x-axis and the number of accidents on the y-axis.
    + A pie chart to show the proportions of road accidents for each state