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.

1. How do road fatalities vary by state in Australia?

The data shows differences in road fatalities by state in Australia. This highlights the importance of tailoring road safety measures to each region.

* Which data attributes (columns) do you need to answer this question?
* State
* Do you need to transform any of the data?
* No change is needed.
* Does the data type change when you transform the data? If so how.
* No, the data type does not change when transforming the data.

1. How do road fatalities vary by age group?

Analyzing how road fatalities vary among different age groups provides insights into which age demographics are most affected by fatal accidents, guiding targeted safety interventions.

* Which data attributes (columns) do you need to answer this question?
* Age
* Number of Fatalities
* Do you need to transform any of the data?
* Yes, because it needed to group ages into appropriate age groups.
* Does the data type change when you transform the data? If so how.
* Yes, it introduces a new categorical variable representing age groups.

1. What is the distribution of road fatalities by crash type?

Examining the distribution of fatalities across crash types informs us about the common types of accidents leading to deaths on the road, guiding safety measures.

* Which data attributes (columns) do you need to answer this question?
* Crash Type
* Number of Fatalities
* Do you need to transform any of the data?
* No change is needed.
* Does the data type change when you transform the data? If so how.
* No, the data type does not change when transforming the data.