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.

**What is the total of Incident between 6:00to 18:00(Day) vs 18:00 to 6:00(Night) in 2020?**

Based on the pie chart, the total incidents in 2020 between 6:00 to 18:00 (Day) and 18:00 to 6:00 (Night) are:

* **Day (6:00 to 18:00)**: 51 incidents
* **Night (18:00 to 6:00)**: 58 incidents

This shows slightly more incidents occurring during the night than during the day.

**What is the average speed limit for crashes involving heavy rigid trucks in urban areas from 2015 to 2019?**

Based on the graph, the average speed limit for crashes involving heavy rigid trucks in urban areas from 2015 to 2019 is as follows:

* **2015**: Just above 100 km/h
* **2016**: Slightly below 90 km/h
* **2017**: Approximately 90 km/h
* **2018**: Gradual increase, nearing 100 km/h
* **2019**: Reaches about 115 km/h

This indicates a general upward trend after 2016.

**How many crashes occurred on weekends (Friday, Saturday and Sunday) in each state in 2020?**

Based on the bar graph, the number of crashes that occurred on weekends (Friday, Saturday, and Sunday) in 2020 for each state is as follows:

* **Queensland (Qld)**: 4 crashes
* **New South Wales (NSW)**: 6 crashes
* **Victoria (Vic)**: 4 crashes
* **South Australia (SA)**: 5 crashes
* **Tasmania (Tas)**: 3 crashes
* **Western Australia (WA)**: 5 crashes

This shows that NSW had the highest number of crashes on weekends in 2020.