

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 visualisation.

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: How does the number of fatalities vary by year?

Data attributes	BITRE_Fatality_Count_By_Date[Year], BITRE_Fatality_Count_By_Date[Number Fatalities]
Transform data	No
Change data type	No
Sketch	

Your Question 2: What is the gender distribution of fatalities across different age groups?

Data attributes	BITRE_Fatality [Age Group], BITRE_Fatality [Gender], BITRE_Fatality [Crash ID]																					
Transform data	No																					
Change data type	No																					
Note	Count distinct BITRE_Fatality [Crash ID] to have the number of fatalities																					
Sketch	<div><p>Fatality Ratio of Gender by Age group</p><p>Gender ● Female ● Male</p><table><thead><tr><th>Age Group</th><th>Female (%)</th><th>Male (%)</th></tr></thead><tbody><tr><td>17_to_25</td><td>23.57%</td><td>76.43%</td></tr><tr><td>40_to_64</td><td>28.69%</td><td>71.31%</td></tr><tr><td>26_to_39</td><td>22.13%</td><td>77.87%</td></tr><tr><td>75_or_older</td><td>41.20%</td><td>58.80%</td></tr><tr><td>65_to_74</td><td>39.21%</td><td>60.79%</td></tr><tr><td>0_to_16</td><td>38.19%</td><td>61.81%</td></tr></tbody></table></div>	Age Group	Female (%)	Male (%)	17_to_25	23.57%	76.43%	40_to_64	28.69%	71.31%	26_to_39	22.13%	77.87%	75_or_older	41.20%	58.80%	65_to_74	39.21%	60.79%	0_to_16	38.19%	61.81%
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Your Question 3: Which type of road user has the highest number of fatalities?”

Data attributes	BITRE_Fatality [Road User], BITRE_Fatality [Crash ID]																					
Transform data	No																					
Change data type	No																					
Note	Count distinct BITRE_Fatality [Crash ID] to have the number of fatalities																					
Sketch	<p>Number Fatalities by Road User</p> <table><thead><tr><th>Road User</th><th>Number of Fatalities</th><th>Percentage</th></tr></thead><tbody><tr><td>Driver</td><td>22.43K</td><td>46.08%</td></tr><tr><td>Passenger</td><td>10.36K</td><td>21.28%</td></tr><tr><td>Pedestrian</td><td>7.92K</td><td>16.27%</td></tr><tr><td>Motorcycle rider</td><td>6.27K</td><td>12.89%</td></tr><tr><td>Pedal cyclist</td><td>1.35K</td><td>2.77%</td></tr><tr><td>Motorcycle pillion passenger</td><td>0.35K</td><td>0.73%</td></tr></tbody></table>	Road User	Number of Fatalities	Percentage	Driver	22.43K	46.08%	Passenger	10.36K	21.28%	Pedestrian	7.92K	16.27%	Motorcycle rider	6.27K	12.89%	Pedal cyclist	1.35K	2.77%	Motorcycle pillion passenger	0.35K	0.73%
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Include this file as evidence for your Demonstration 2