Semester 1 – 2021/2022

Course Code	DS620
Course Name	Data Visualization
Assignment type	Critical Thinking
Module	02

Student ID	G200007615
Student Name	Abdulaziz Alqumayzi
CRN	15059

<u>Solutions:</u>

Visualizing Data

Introduction

I am an expert in this critical thinking who works with the Singaporean government's demographic data (https://data.gov.sg/dataset/d1778088-f56a-4353-891f-21f803b2dad5/download) which provides information on the Singaporean population by age, ethnic group, and gender. The customer wants to support me in their useful visualization of demographic information.

Tableau is the software that will be used to make the dashboard for the customer. The dashboard that will be created is **Singapore Residents Dashboard in 2019**.

Steps to Make the Dashboard

Step one: reading the data from the source to Tableau as shown in Figure 1. After opening the program, Click on "More…" from the left panel under the "To a File" category. A window will be open to choosing the source file.
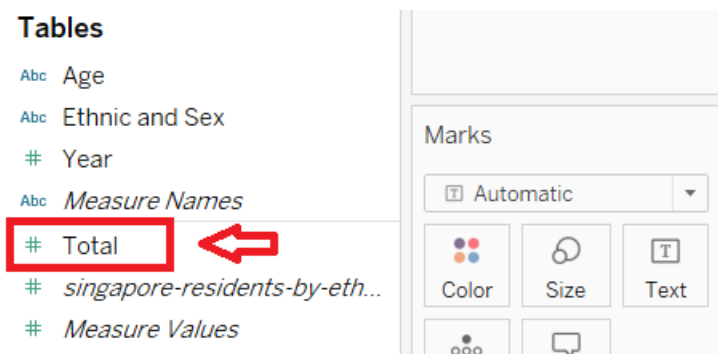
Figure 1

Read from source data
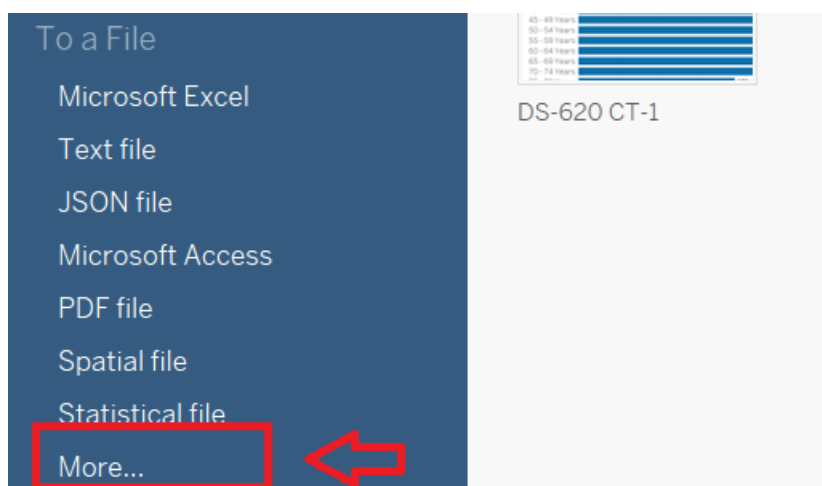
Step two: creating age, ethnic and gender charts. The variable "Total" in Figure 2 was a string variable and has been changed to a numeric variable. Next, building the charts for age, ethnic and gender variables.
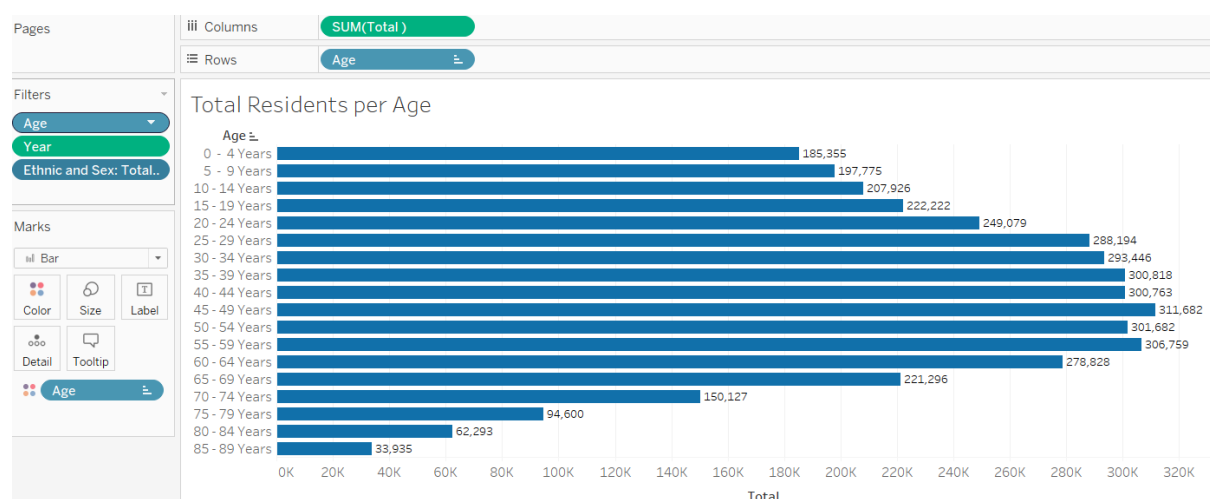
Figure 2

Creating age, ethnic and gender charts

First, we will create the age chart, the values in the age chart are many categories, so one of the best charts to view category data is the bar chart. The bar chart was filtered by year of 2019 and by "Total Residents" value from "Ethnic and Sex" variable, then sorted age with some of the values. Figure 3 shows the chart.
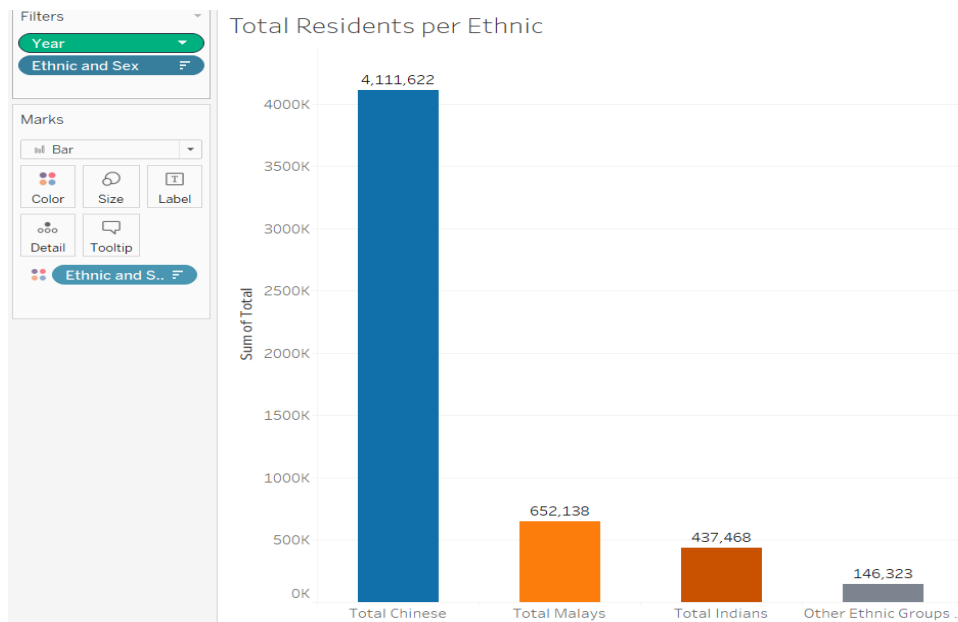
Figure 3

Total Residents per Age chart

Second chart is Ethnic variable. Also, a bar chart used to visualize the data. Figure 4 shows the chart with its filters. As previous chart, filtered by 2019 and but this time choosing Total

Chinese, Total Malays, Total Indians and Total of Other Ethnic Groups for "Ethnic and Sex" variable.
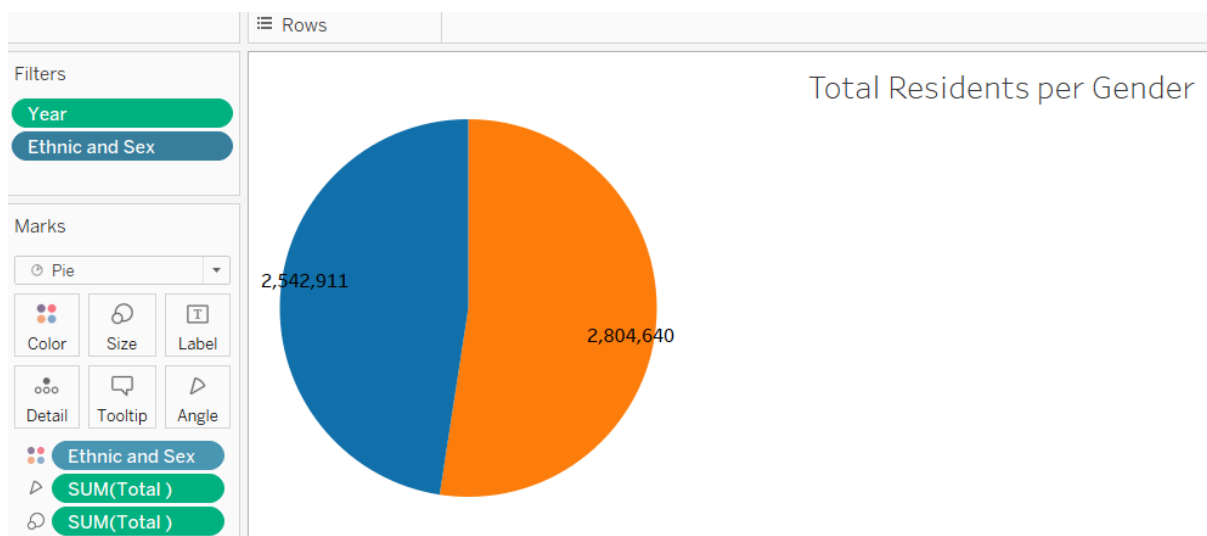
Figure 4

Total Residents per Ethnic chart

Last chart is the gender chart. A pie chart will be used for the gender variable. A pie chart is good to used when the values of the category are very low, in other word, four or less than four categories. The data for gender were filtered out by 2019 and "Total Residents" value from the "Ethnic and Sex" variable. The chart is shown in Figure 5.

Figure 5

Total Residents per Gender

Step three, four and five: The dashboard builds upon these previous charts as shown in Figure 6. The age variable is above since it has many categories, down are the Ethnic and Gender charts since they are small visuals with a few values. On the right hand, there are some legends to help the customer understands these visuals. The colors used in these visuals are good for the color blind.

Figure 6

Singapore Residents Dashboard in 2019
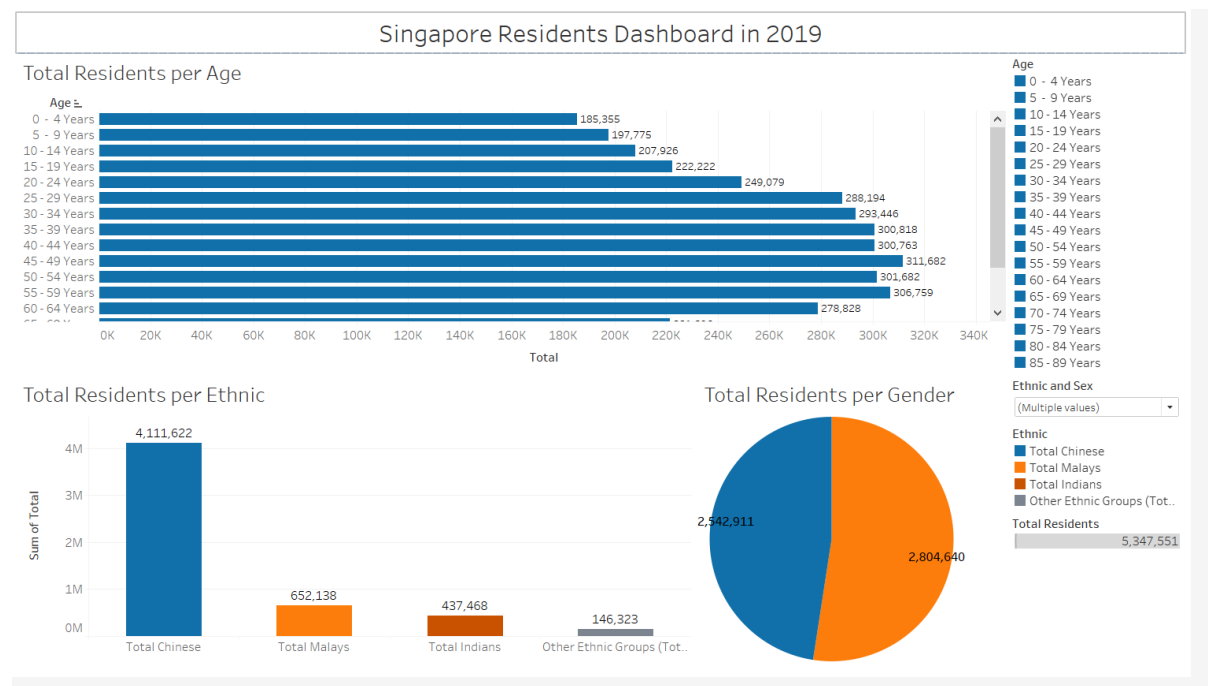
In conclusion, the dashboard describes the total of residents per age, ethnic and gender. Bar and pie charts are very easy to understand and work effectively. The colors as mentioned earlier, are used for the color blind people too.

<div align="center">

References

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Ryan, L. (2018). *Visual data storytelling with Tableau*. Addison-Wesley.