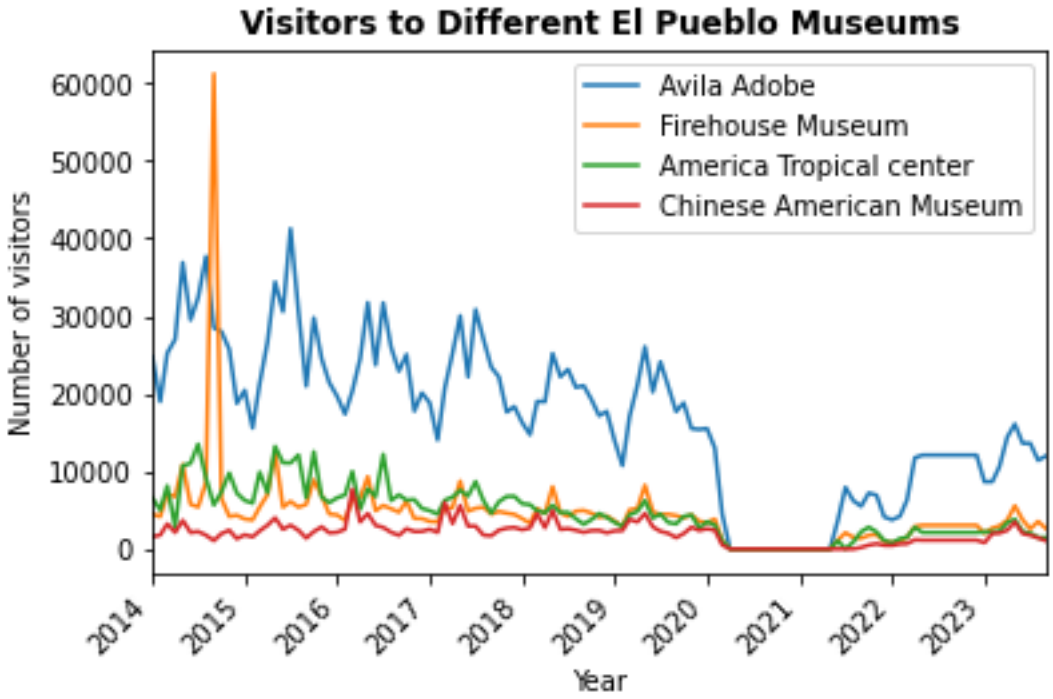
Data Visualisation

The link to the github repository for this project is https://github.com/chidinma-godwin/data-visualisation

The data for the first 3 plots are from the Los Angeles Data Portal. It shows Individual visits to El Pueblo museums, per month. The link to the data source is https://data.lacity.org/Arts-Culture/Museum-Visitors/trxm-jn3c

The data for the fourth plot is a growth regression data provided by Durlauf & Johnson. It was derived from the Penn World Table 4.0. The link to the data source is https://vincentarelbundock.github.io/Rdatasets/doc/AER/GrowthDJ.html

VISUALISATION 1: Line Plot of Monthly Visitors to Four El Pueblo Museums



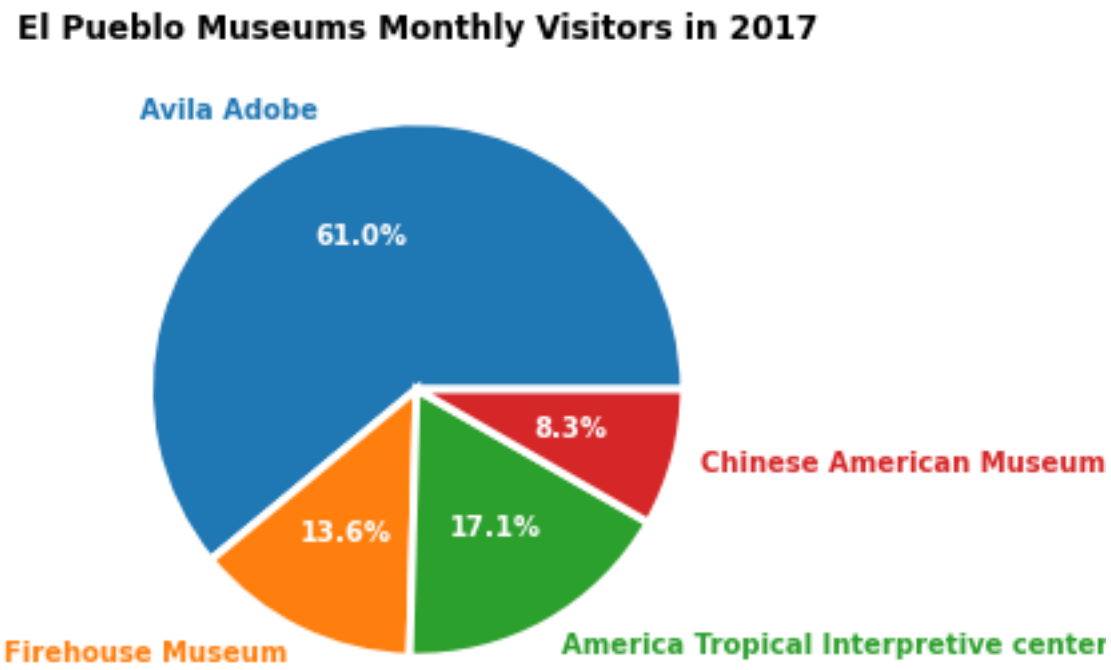
Line plots are good for showing changes over a period. The above line plot shows the trend of monthly visitors to four different El Pueblo museums.

We can see clearly from the plot that Avila Adobe had move visitors throughout the examined period, except sometime around the last quarter of 2014 when Firehouse Museum had an unusual high number of visitors.

We can also see from the graph that Chinese American Museum had the lowest number of visitors throughout the examined period.

Also, the graph shows that the four museums had no visitors from first quarter of 2020 to second quarter of 2021. They probably closed due to COVID 19.

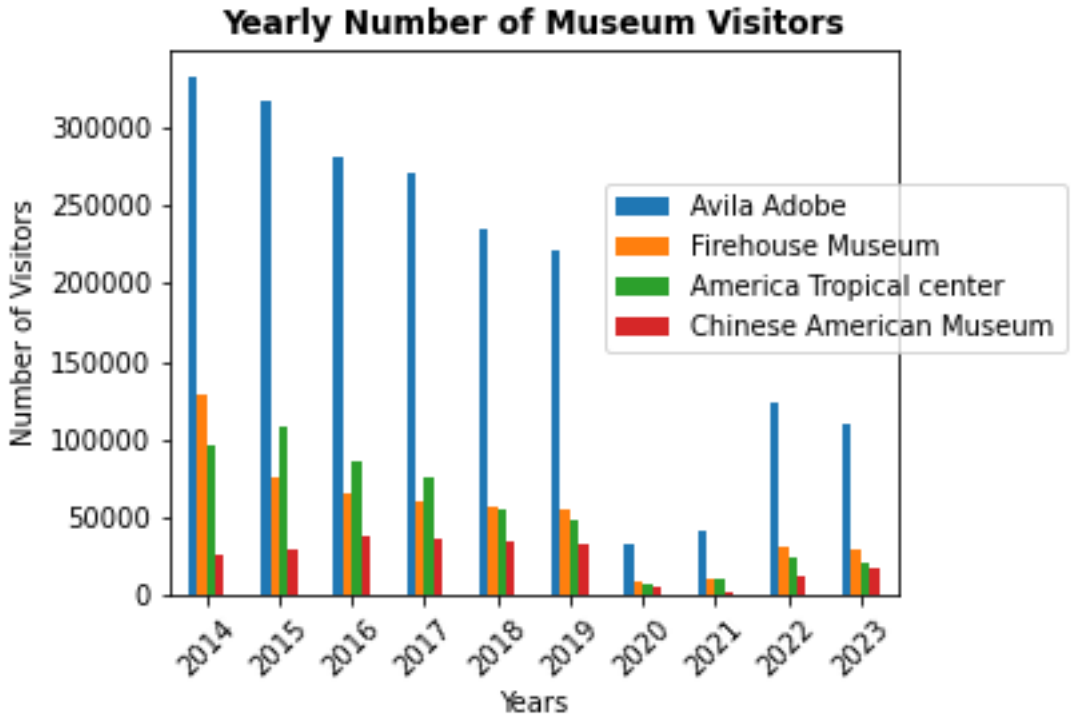
VISUALISATION 2: Pie Plot Showing Visitors to Four El Pueblo Museums as a Percentage of the Total Number of Visitors to The Four Museums in the Year 2017



Pie Chart is best for showing data as a proportion of a whole or data proportion at a point in time. The above pie plot shows how the total number of visitors to four El Pueblo museums in 2017 were divided between the museums.

The graph shows that Avila Adobe had the highest proportion of visitors in 2017 with more than half the total number of visitors, while Chinese American Museum had the smallest proportion of visitors in that same period.

VISUALISATION 3: Bar Chart Showing the Frequency of Visitors to Four El Pueblo Museums From 2014 to 2023

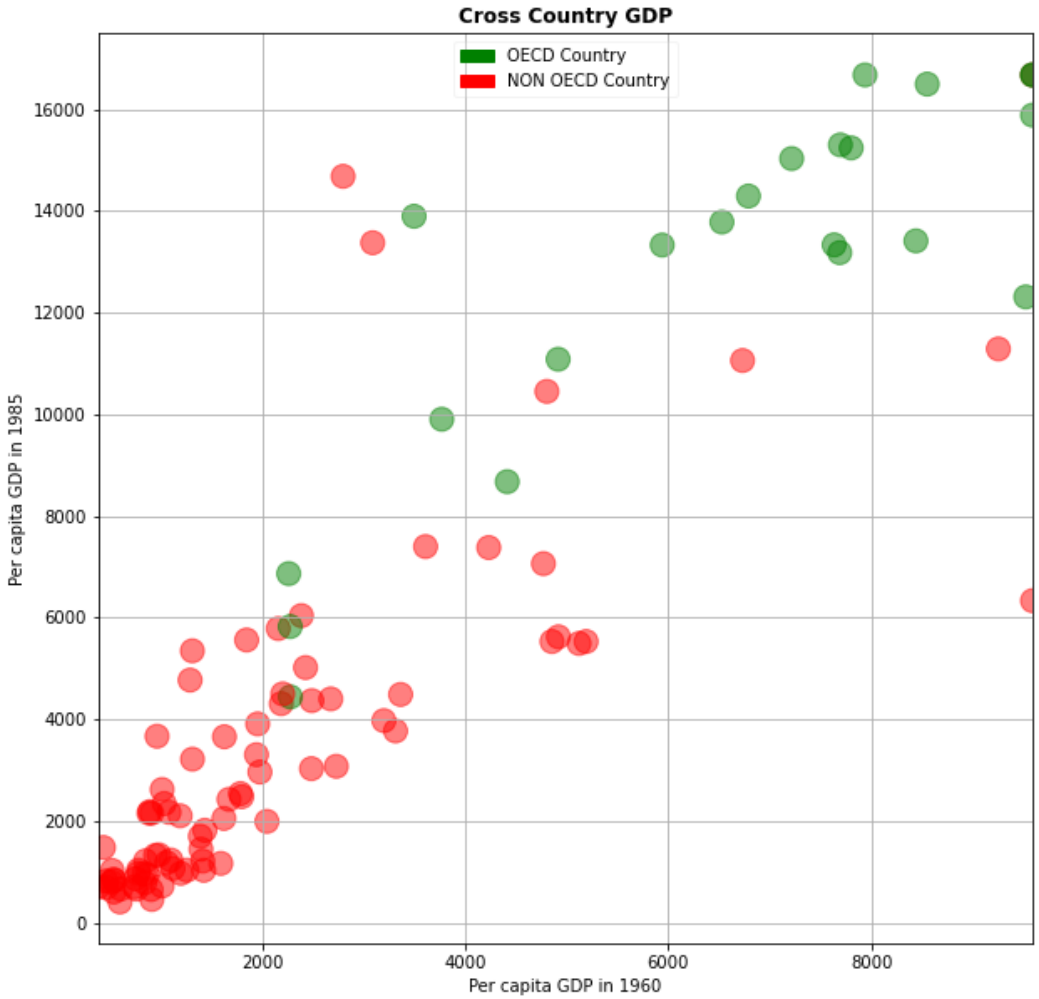


Bar plot is used for showing numerical values for various categories of data. They are best used for comparing between different groups.

In the bar plot above we can see the number of visitors to each museum from 2014 to 2023. The graph shows that the number of visitors to the museums kept declining as the years goes by.
In all the observed years, Avilia Adobe clearly had more visitors than the other museums, and Firehouse Museum had more visitors in 2014, 2019, 2022, and 2023 than the other 2, while America Tropical Center had more visitors than Firehouse and Chinese American Museum in other years, apart from in 2018, 2020, and 2021 when it had almost the same visitors as Firehouse Museum.

2020 and 2021 had very low visitors because the museums were closed for most part of the years. The information from this graph will help those in charge of the museum to come up with a way to increase the interest of people in the museums.

VISUALISATION 4: Scatter Plot of Per Capita GDP in 1960 versus Per Capita GDP in 1985 For Various Countries



Scatter plot is best for visualizing the relationship between two quantitative data.

In the scatter plot above we are visualizing the relationship between the Per Capita GDP in 1960 and the Per Capita GDP in 1985 for various countries. We also considered their relationship to a categorical variable (OECD status of the countries).

Countries that are members of the Organisation for Economic Co-operation and Development are plotted in green while those that are not OECD members are plotted in red. This will allow us also to see if the OECD membership status influence the Per Capital GDP in 1960 and 1985 of the countries.

We can see from the graph that lots of countries that are not OECD members had low Per Capita GDP in 1960 and 1985, while OECD countries had higher Per Capita GDP.

The graph also shows that there is a linear relationship between the Per Capita GDP in 1960 and 1985 for all the considered countries. Meaning most countries that had low GDP in 1960 also had low GDP in 1985 and vice versa.