Assignment 1 - Visualisation

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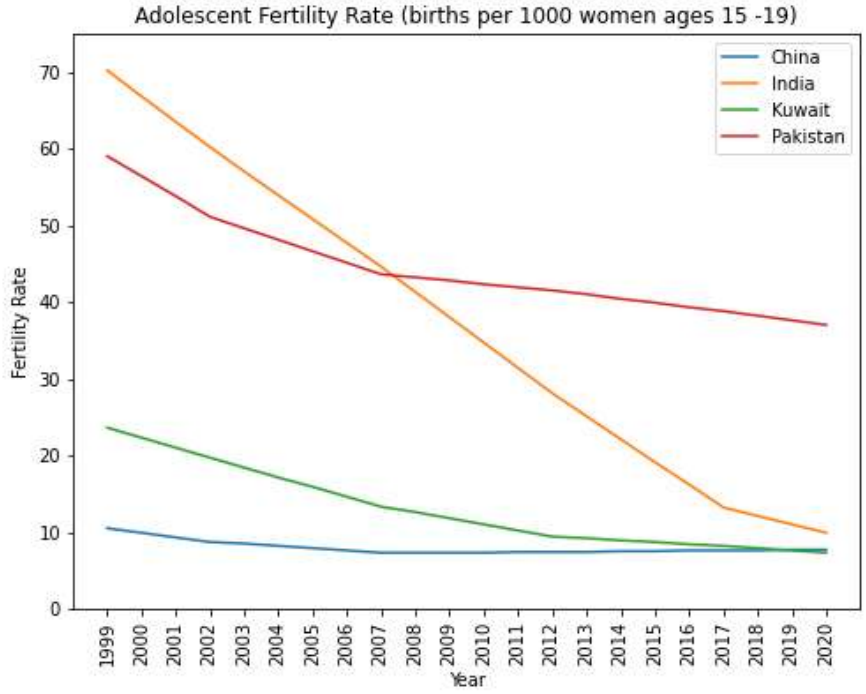
In this assignment, I have used three types of graphs. I used a line plot, pie chart and bar graph to visualise the three data. I took the dataset from a source called World Bank Open Data. The dataset which shows the Adolescent fertility rate in four countries is used to create a Line Plot. A dataset of internet users is used for making a pie chart and a bar graph is created with a dataset of the Suicide mortality rate in the United States. All three datasets are altered using Microsoft Excel and it is saved in Microsoft OneDrive.

Data Source Link: https://data.worldbank.org

Link for the datasets saved in OneDrive: https://herts365-my.sharepoint.com/:f:/g/personal/bb22aca_herts_ac_uk/EjhNLYb5wM9BnD4Ioivlx-sBF5prh28X1LwCqS8nzPXnug?e=t5qmJW

GitHub Repository Link : https://github.com/Bubly28/Bubly_works.git

Visualisation 1 : Line Plot

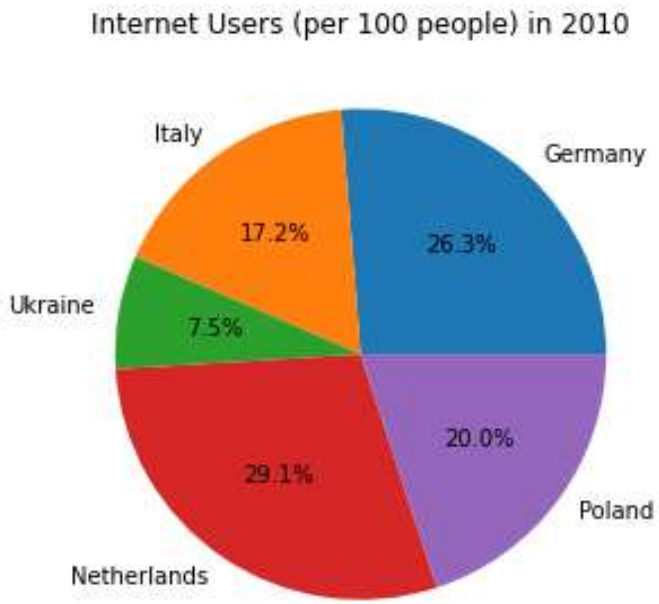


Line plot is a graphical depiction of data points along a number line which most typically used to show a set of quantitative data with each data point illustrated by a dot or marker on a continuous scale. The dots are then joined by lines to demonstrate the data's trend or pattern.

This line plot demonstrates the adolescent fertility rate of births per 1000 women aged 15 to 19 in four Asian nations from 1999 to 2020. The graph's lines illustrate the downward trend over time. Based on the graph, there is a significant decline in the rate of adolescent fertility in India from 1999 to 2017, with just a modest decrease after then. As in Pakistan, the rate fell twice between 1999 and 2002, and again between 2002 and 2007, and has since only minimally reduced. In Kuwait, the rate gradually fell until 2012, then slightly decreased. In the case of China, there was a tiny drop in the rate until 2007, but it subsequently climbed somewhat. The graph clearly depicts that India had the greatest decline in the rate of adolescent fertility, whereas China experienced an upward trend following a minor dip.

For this data, I picked a line plot because it could help to trace variations in adolescent fertility rates over a period of time and among various regions and nations.

Visualisation 2 : Pie Chart

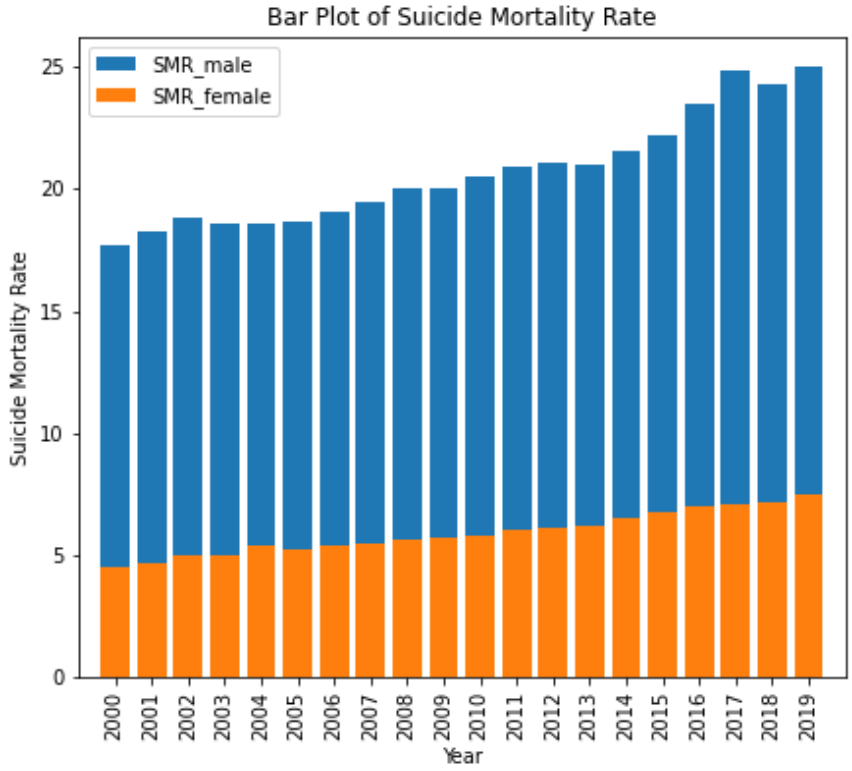


To display categorized or grouped data, pie charts are frequently used. This circular chart illustrates data in segments. Each slice symbolizes a category or group of data, with slices representing percentages of a total.

This chart displays two pie charts of internet users per 100 individuals in five European nations in 2010. In the Netherlands, 29.1% of people utilised the internet in 2010. At that time, 26.3% of Germans were using the internet. The percentage of internet users in Italy and Poland differs just a little. Somehow 17.2% of Italians used the internet, whereas 20% of Poland did. In Ukraine, a tiny percentage of individuals, around 7.5%, only accessed the internet in 2010. Finally, the chart shows that in 2010, the Netherlands had a relatively high percentage of internet users, while Ukraine had the lowest percentage.

I picked a pie chart to compare internet users in five European nations because it allows you to rapidly compare the data and show the proportional shares of online users in each country.

Visualisation 3 : Bar Plot



The stacked bar plot is useful to represent data and show the frequency or magnitude of a categorical variable.

This stacked bar plot of the suicide mortality rate is a visual display of the number of suicides per 100,000 people in a particular population over a 20-year period (2000 – 2019) in the United States, broken down by gender. The length of each segment within the bar showcases the percentage of total suicide deaths by gender. The graph shows that the rates of males in 2003, 2004 and 2005 remained static before experiencing a ceiling trend through 2017. After a slight decline in 2018, the mortality rate for men increased in 2019. Women's rates are comparably lower than men's and have been gradually climbing since 2000 until 2019. When observed in its entirety, mortality rates showed a consistent upturn.

I made a stacked bar graph for this data since it is useful for comparing the suicide death rates of different groups across time.