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APPLIED DATA SCIENCE -1

Assignment 1:

INDEX.

1. DATA SOURCE LINKS

1.1 LINE CHART: https://data.worldbank.org/indicator/SH.DTH.NMRT
1.2 BAR CHART: https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS
1.3 PIE CHART: https://en.wikipedia.org/wiki/List_of_countries_and_dependencies_by_population

2. GIT HUB REPOSITORY LINK

2.1 Repository Link: https://github.com/bc22aba/Applied_Data_Science

3. LINE CHART VISUALIZATION

3.1 DESCRIPTION: Tracking the Total Neonatal Deaths over the period of 2010 to 2020.

**3.2 SCREENSHOTS:**
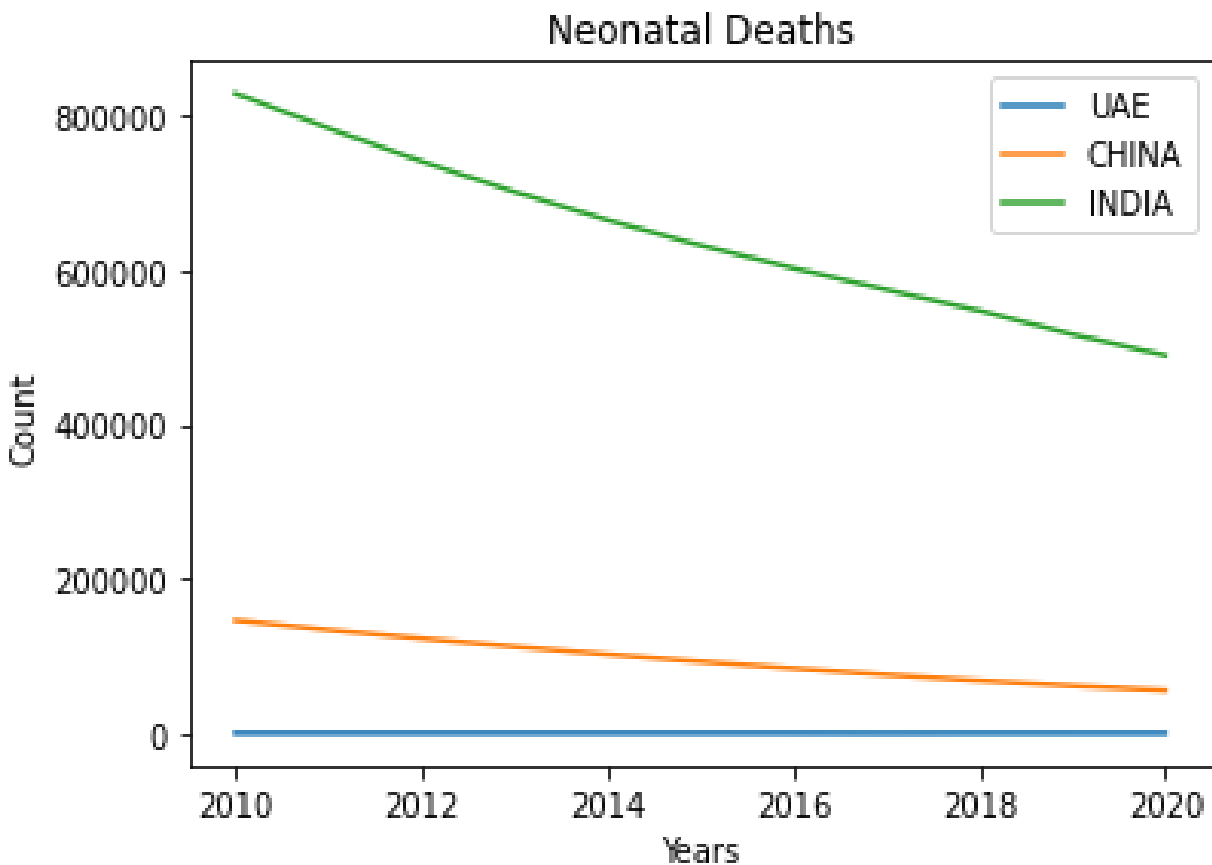
Figure: Line Chart

3.3 EXPLANATION: A line chart is used to track the changes over the period. In the above Line chart, it's effortless to track the changes in neonatal deaths across the world. In the line chart, the x-axis is plotted with years and the y-axis is plotted with the count. Here, I have considered

three countries (INDIA, CHINA, and UAE). By looking at the chart, In CHINA and INDIA, their neonatal deaths rate is gradually decreasing year by year. However, In UAE the neonatal death rate remained constant over the period of 10 years. The neonatal death rate in China gradually decreased from 2015 to 2020. The rate with India was very elevated in 2010 which had a continuous drastic fall from 2010 to 2020. Finally, to conclude the death rates all three counties had dropped gradually.

4. BAR CHART VISUALIZATION:

4.1 DESCRIPTION: Comparing the Percentage of the Unemployment rate of labor force out of total population.

4.2 SCREENSHOT:
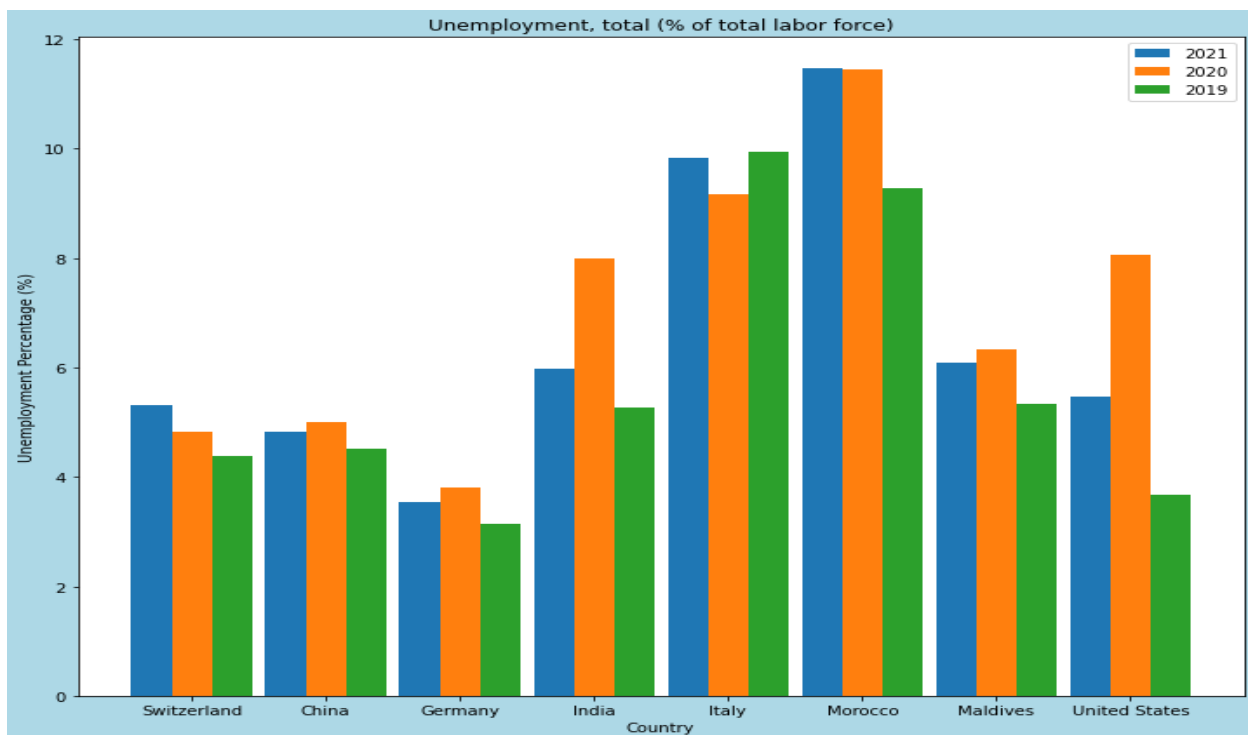
Figure: Bar Chart

4.3 EXPLANATION: A bar chart is used to compare the data between different groups. In the above Figure: Bar Chart, Morocco has the highest rate of unemployment in 2021, whereas Germany being the least in 2019. At the same, we can also compare the changes over the period of (2019,2020,2021). The Bar chart clearly shows the plot against the country and its unemployment percentage. Amongst the countries plotted Switzerland and China are almost having the same inflammation in 2020. Where in 2021 the rate of unemployment has gradually increased in Switzerland, Italy, and Morocco. In 2019 the rate of unemployment was high in Italy. In Morocco, the rate remained constant in the year 2020 and 2021 and had a gradual drop in 2019 nearing 3%. Germany is the only country which maintained its rate of unemployment low among all the 3 years without exceeding 4%. In India and the United States, the rate of

percentage was lying between 7 to 8 % in 2020. The above bar chart makes it easier to summarize a large data set in visual form with accurately drawn bars of the same width using the vertical bar chart was clear and easier for plotting large-scale data as plotted above by considering multiple years against the unemployment percentage.

5. PIE CHART VISUALIZATION:

5.1 DESCRIPTION: Population of top countries across the world in Percentages (%)

5.2 SCREENSHOT:
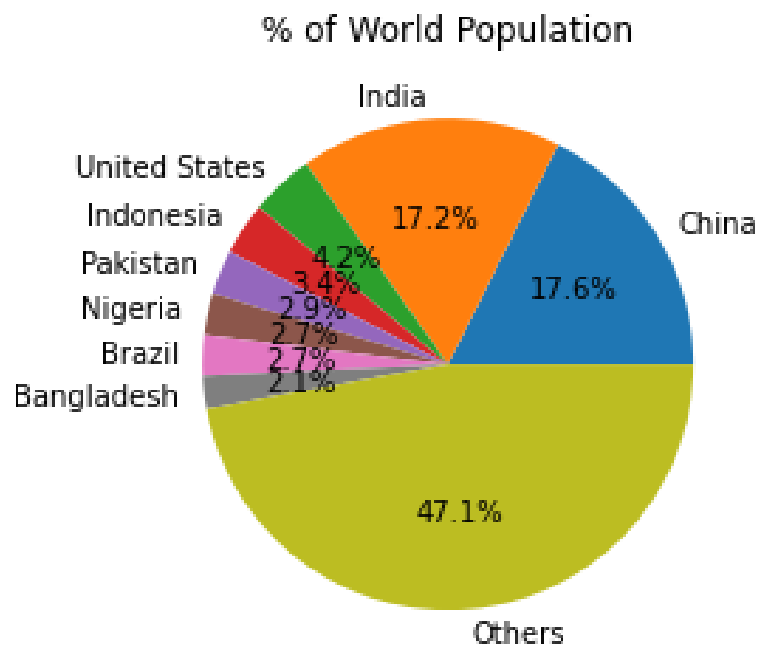
Figure: Pie Chart

5.3 EXPLANATION: A pie chart is used to display the relative proportions of multiple classes of data. The total quantity is proportional to the size of the circle. A Pie chart is divided into a series of segments. Each portion or a segment of a circle represents a particular category. A pie chart usually shows the component parts of a whole. Here in the above-plotted pie chart represents the world population in the form of percentages amongst several countries. The above chart represents the highest population in China 17.6% taking the first place. The second highest populated country is India with a percentage of 17.2% these countries have the highest rate whereas the least populated country stands for Bangladesh with 2.1 %. Brazil, Indonesia, Nigeria, Pakistan, United States falls between 2.7 to 4.7 %. The other countries cover a percentage of 47.1 %.

However, there were not any changes in the percentage of Nigeria and Brazil (excluding those regions which are mentioned in the graphs).

6. REFERENCES:

1. https://app.pluralsight.com/library/courses/data-visualization-with-python-introduction/table-of-contents
2. https://gilberttanner.com/blog/introduction-to-data-visualization-inpython/