**Assignment 1**

**Applied Data Science 1**

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Repository: <https://github.com/Nihadkaipalli/ADS1-Assignment-1.git>

**Data Set:**

Data Set is chosen from a web platform ‘Kaggle’. This is a platform which provides so many open-source datasets. The data set is about the life expectancy data of different countries from 1800-2016. This data provides an insight into how health and life expectancy of people increased and decreased throughout the years.

Link of the dataset:

<https://www.kaggle.com/datasets/brendan45774/countries-life-expectancy>

A graph with different colored lines

Description automatically generated**LINE PLOT:**

Plotted a line plot of life expectancy of people in different countries over some years. X axis is marked as years and y axis is marked as life expectancy. Six countries are selected to plot the graph. They are India, United Kingdom, United States, Brazil, Mexico, Australia. Different lines represent these countries, Legend is marked for the reference.

Line plot will give a proper visualization of the life expectancy over the years. From the graph the life expectancy of all the countries have increased over the years. It may be a result of increase in healthcare, living conditions of the people. This graph provides valuable insights into the progress made in these sectors. This analysis underscores the importance of ongoing efforts to improve healthcare and living conditions worldwide. In the graph United Kingdom, Mexico and India is shows more fluctuations in their life expectancies.

A graph of different colored lines

Description automatically generated with medium confidence**BAR PLOT:**

A bar plot chart is plotted for average life expectancy from 2010 to 2016. X axis is marked as years and Y axis is marked as average life expectancy. Six countries is chosen from the dataset (Australia, Brazil, India, Mexico, United Kingdom, United States).

Each color represents each country. Legend is provided. The bar graph will provide a proper visualization in the difference in life expectancy of every country. The graph shows variance in average life expectancy for the specified countries during the analyzed period. Overall, the graph suggests a positive impact in average life expectancy for the selected countries. A consistent or increasing in life expectancy implies potential improvements in living conditions, and healthcare in different countries.

**PIE PLOT:**

A pie chart with different colored circles

Description automatically generated

Pie plot is plotted for total life expectancy of countries (United States, United Kingdom, Mexico, India, Brazil, Australia) from 1802 to 2016. The primary objective is to understand how life expectancy has evolved over time in these selected countries and to visually represent the findings using a pie chart.

Each country is represented as a segment of the pie, and the size of each segment corresponds to its mean life expectancy over the selected years. The percentage of total life expectancy contributed by each country is displayed on the chart. Each segment is labelled with country name. This allows for a quick and easy comparison of the countries' relative contributions. In the graph United Kingdom is having higher life expectancy followed by other countries. India is having least.

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