**7PAM2000 Applied Data Science**

**Assignment 1: Visualisation**

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**Dataset Link 1 -** <https://datahub.io/higorspinto/car-sales-world-annual#resource-total_sales_world_annual_csv>

**Dataset Link 2 -** <https://www.kaggle.com/datasets/rajanand/crime-in-india?select=20_Victims_of_rape.csv>

**Code -** [**https://github.com/MukeshAvudaiappan/ADS\_ASSIGNMENT\_1**](https://github.com/MukeshAvudaiappan/ADS_ASSIGNMENT_1)

***VISUALISATION 1****:*

Car sales in the United Kingdom, Europe, and China from 2005 to 2018 across the globe.

Chart, line chart

Description automatically generated

For the countries of the United Kingdom, Europe, and China, the line plot shows the number of cars sold per million from 2005 to 2018. In UK, the same range of cars have been sold  over the course of the time, although from 2009 to 2013, there was a modest decline in sales; after that, the range remained the same. United Kingdom has sold the least amount of cars when compared to Europe and China.

When compared to Europe, which sold over 20.5 million cars in 2005, China sold the fewest—5.2 million. As until 2008, car sales had only modestly increased, but throughout the next two years, growth accelerated. From 2012 to 2017, the sales were on a mild rise trajectory until 2018, when they marginally decreased to 0.5. Europe had increase up until 2007, when sales there began to gradually drop. Since 2009, there has been a significant variation in car sales, which are currently around 19 million.

***VISUALISATION 2****:*

Rape cases from 2001 to 2010 in each year from 2001 – 2010 in India. The rape victims are divided into groups according to their ages.

Chart, bar chart

Description automatically generated

In this bar plot visual, an attempt is made to analyse and find perception about the crime committed against women by considering the attributes related to Victims of Rape such as Year, total rape case reported, Victims up to 10 years, Victims between 10 to 14 years, Victims between 14 to 18 years, Victims between 18 to 30 years, Victims between 30 to 50 years & Victims above 50 years.

The ‘X’ and ‘Y’ axis denotes the year and total rape cases reported in an age wise. Throughout the Bar plot its clearly visible that the reported rape crimes increase linearly from 2001 to 2010 which shows clearly that the rape crimes are increasing rapidly over years, and it is very important to protect women and to stop crime against them.

***VISUALISATION 3****:*

Represents the pie chart to get the percentage of Overall age wise rape cases in India.

•  Victims up to 10 years: **2.6%**

•  Victims between 10 to 14 years: **6.4%**

•  Victims between 14 to 18 years: **16.2%**

•  Victims between 18 to 30 years: **57.8%**

•  Victims between 30 to 50 years: **17.1%**

Chart, pie chart

Description automatically generated

The Maximum Rape Cases Reported for the age group between 18 to 30 years with 57.8% and Minimum Rape Cases Reported for the age group below 10 years with 2.6%.