**7PAM2000 Applied Data Science 1**

**Assignment 1: Visualisation**

**Name:**

**Student ID:**

**Dataset source:**

<https://www.kaggle.com/datasets/justinas/housing-in-london>

The dataset is mostly focused on the London housing market. The data contains various features like:

* Date
* Area
* average\_price
* Code
* houses\_sold
* no\_of\_crimes
* borough\_flag

I have used date as index for the dataframe and average price, houses sold and no of crimes for visualization of the data.

**Visualization 1: Line graph**

Chart, histogram

Description automatically generated

Figure 1: Line graph for the data

The line graph represents the change in average price of the four areas of the London. From the above graph I have concluded that the Hammersmith and Fulham has the highest average pricing since 1996 and Hounslow has the low average pricing. The average price of the hammersmith and Fulham was increasing at high rate compared to the other areas of London.

**Visualization 2: Bar graph**

Chart, bar chart

Description automatically generated

Figure 2: Average crime rate

The above bar graph represents the average crime rate for each area (Barnet, Hounslow, Ealing) from 2001 to 2020. Bar graphs is used for the representation as it is useful in conveying the relational information in a good manner. In the above graph, we can see the average crime rate between three areas each year. The year is represented on x axis and average number of crimes on y-axis. From the above graph we can see that the Ealing, has the higher crime rate compared to the other areas and Hounslow has the lower crimes.

**Visualization 3: Pie chart**

Chart, pie chart

Description automatically generated

Figure 3: Pie Chart representing areas that have most houses sold.

The above pie chart represents the percentage of houses sold from each area from total number of houses sold from 2001 to 2020. A pie chart helps organize and show data as a percentage of a whole. The above graph represents the top 10 areas where most of the houses were sold since 2001 to 2020. The areas like Wandsworth, Bromley, Croydon and Barnet observed the large number of houses sold with almost 20% of the total houses.