19AI704

**Evaluation Lab3 - Visualization**

1. Plot the latitudes and longitudesof any 5 cities in India (include your hometown as well), on the map. **(5 marks)**

2. Sales of Riding Mowers: A company that manufactures riding mowers wants to identify the best sales prospects for an intensive sales campaign. In particular, the manufacturer is interested in classifying households as prospective owners or non-owners on the basis of Income (in $1000s) and Lot Size (in 1000 ft2). The marketing expert looked at a random sample of 24 households, given in the file RidingMowers.csv. Create a scatter plot of Lot Size vs. Income, based on the outcome variable owner/non-owner with legible labels and a legend **(5 marks)**

3. Laptop Sales at a London Computer Chain**:** The file LaptopSalesJanuary2008.csv contains data for all sales of laptops at a computer chain in London in January 2008. This is a subset of the full dataset that includes data for the entire year. Attempt the following**: (5marks)**

* Create a bar chart, showing the average retail price by store.
* Which store has the highest average?
* Which has the lowest?
  + Create side-by-side boxplots of retail price by store.

4. Shipments of Household Appliances: Line Graphs**.** The file ApplianceShipments.csv contains the series of quarterly shipments (in millions of dollars) of US household appliances between 1985 and 1989. **(5marks)**

* Create a well-formatted time plot of the data using Python.
* Does there appear to be a quarterly pattern? For a closer view of the patterns, zoom in to the range of 3500–5000 on the y-axis.
* Create one chart with four separate lines, one line for each of Q1, Q2, Q3, and Q4. (In Python, this can be achieved by add column for quarter and year. Then group the data frame by quarter and then plot shipment versus year for each quarter as a separate series on a line graph. Zoom in to the range of 3500–5000 on the y-axis. Does there appear to be a difference between quarters?
* Create a line graph of the series at a yearly aggregated level (i.e., the total shipments in each year).

4. Illustrate by few example plots (minimum 5 plots/ tool): **(3x10=30marks)**

* Plotly
* Bokeh
* Tableau

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