Data Science, 2022
Tut 8: Information Visualization
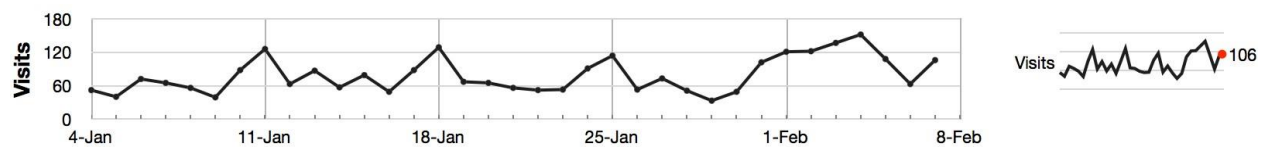
Name: Chirag Rana
UID : 2018130043
BE COMPS
Question 1

The data shown here are the number of visits to a university website for a particular statistics course. There are 90 students in the class.

1. What are the names (type) of the 2 plots shown? -   The first plot is a Time Series plot.
   - The second plot is Sparkline plot

2. List any 2 interesting features in this data.

- First week of Jan shows huge visits. This may be due to scheduling of some unit tests/ presentations.
- The sudden increase in visits is on 11, 18, 25 Jan (Same day), this might be due to reservation of the day for some assignments/orals/ submissions/ practicals.

Question 2

What are the names of the axes on a bar plot?

- The x-axis represents the category axis and y-axis represents the value axis.

Question 3

Which types of features can the human eye easily pick out of a time series plot?

- The human eye can easily pick up features of a time series plot such as upward and downward trends, gaps i.e., missing values, spikes, sinusoids.

Question 4

Why is the principle of minimizing "data ink" so important in an effective visualization? Give a scientific or engineering example of why this is important.

- This is the proportion of Ink that is used to present actual data compared to the total amount of ink used in the entire display.
- The principle of minimizing "data ink" reduces the time or work to understand that plot, by deleting the elements/portions that are redundant for understanding graphs.
- This is crucial for time and safety critical operations, for example operation rooms in medical facilities, operator control rooms, etc

Question 5

Describe what the main difference(s) between a bar chart and a histogram are.

Histogram	Bar Chart
Histogram refers to a graphical representation that displays data by way of bars to show the frequency of numerical data.	Bar graph is a pictorial representation of data that uses bars to compare different categories of data.
Distribution of non-discrete variables	Comparison of discrete variables
Presents Quantitative data	Presents Categorical data
Bars touch each other, hence there are no spaces between bars.	Bars do not touch each other, hence there are spaces between bars.
Elements are grouped together, so that they are considered as ranges.	Elements are taken as individual entities.