Visualizations

What vizualization are?

→ Visualizations are crucial because they allow us to present data in a way that is easy to understand & interpret.

Uses:-

1) Easy communication of data.
2) Understanding trends/patterns in data
3) Outlier detection

Types of data

- Qualitative data (Categorical)
  - Nominal
    - Ex: fav colors of students
    - * Unordered labels
  - Ordinal
    - * ordered labels
    - Ex: satisfied, not satisfied, neutral
- Quantitative data (Numerical)
  - Discrete
    - * Countable
    - Ex: no. of students
  - Continuous
    - * any values in a range
    - Ex: height, weight

Types of visualization:

i) scatter plot: relation b/w continuous variables.

ii) Line plot: Joining the points in scatter plot with lines.
* Mostly used to identify trends, mostly w.r.t time.

iii) Bar plot: Helps to identify relation b/w continuous & categorical variables.
* If categories are more in data, we use box plot. categorical data will be placed in y-axis. (horizontal)

iv) pie chart: Represent distribution of data w.r.t categories.

v) Count plot: Represents count per category. (understand frequency of each category)

vi) BOX plot: Represents IQR, whiskers
*used to understand distribution of data and detect outliers.

vii) Distribution plot: plots density of distribution, works similar to boxplot. (continuous values)

viii) histogram: Similar to distribution plot, but gives count.

ix) Violin plot: combination of boxplot & distribution plot.

x) Heat map: Correlation map. relationship b/w each continuous variable in the data.
*Values range from -1 to +1.
- -1 → -ve correlation
- +1 → +ve correlation