

## Visualizations

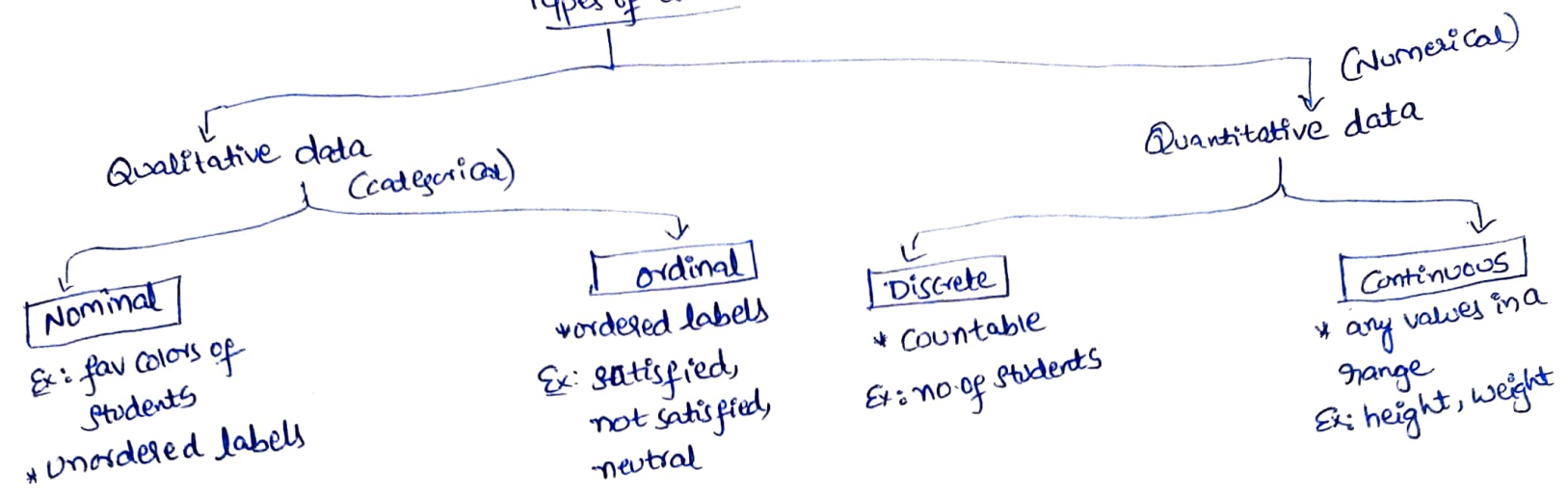
What visualization are?

→ 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



## Types of visualization:

- i) scatter plot: relation b/w continuous variables.
- ii) Line plot: Joining the points in scatterplot 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 bar plot. categorical data will be placed in horizontal y-axis.
- 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.  
    ↓                      ↓  
    -ve correlation      +ve correlation