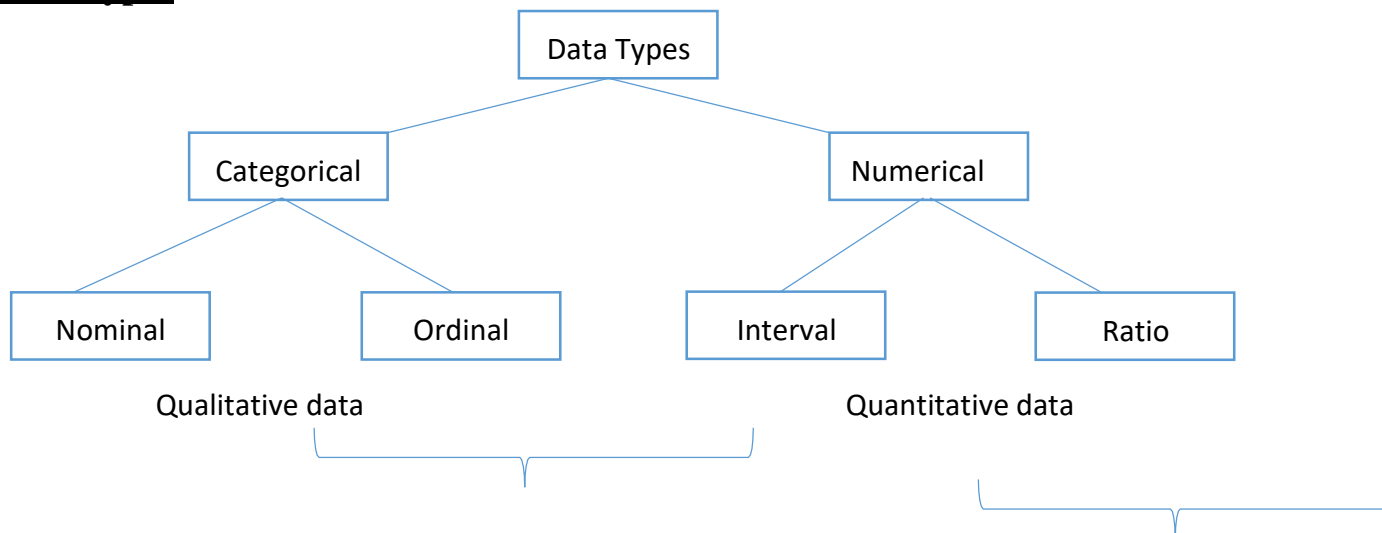Handout

Data Types

Nominal Data

Data that comprises of categories that **cannot be rank ordered** – each category is just different.

 Eg. Gender, blood group, customer's region, political party

Ordinal data

Data that comprises of categories that **can be rank ordered**.

Eg. socio economic status ("low income"," middle income"," high income")

　　　education level ("High school", "BSc", "MSc", "PhD")

☐ To visualize nominal and ordinal data, **bar charts** or **pie charts** can be used.

Interval data

An interval scale is one where there is order and the difference between two values is meaningful. (Don't have a true zero)

Eg. temperature (Fahrenheit), temperature (Celsius), pH

Ratio data

A ratio variable, has all the properties of an interval variable, and also has a clear definition of 0.0. (Have a true zero)

Eg. temperature in Kelvin, weight, height

☐ To visualize interval data and ratio data **histograms** are used.

☐ Study the store sales dataset and identify the data type of each column.

Data	Data type
Order ID	
Order date	
Order priority	
Order quantity	
Sales	
Ship mode	
Shipping cost	
Province	
Customer segment	
Product category	
Ship date	

Mathematical Computation

Possible computations	Nominal	Ordinal	Interval	Ratio
Frequency distribution	Yes	Yes	Yes	Yes
Median and percentiles	No	Yes	Yes	Yes
Add or subtract	No	No	Yes	Yes
Mean, standard deviation, standard error of the mean	No	No	Yes	Yes
Ratios, coefficient of variation	No	No	No	Yes