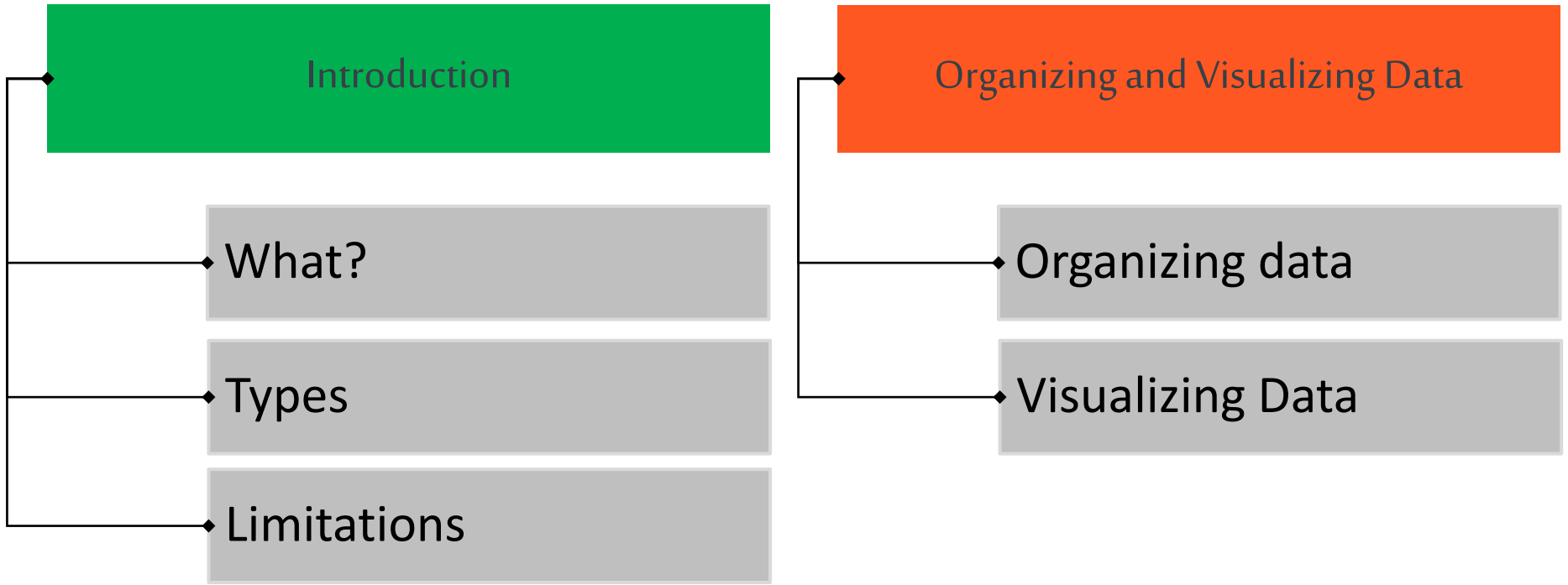
Social Statistics

(Foundations)

School of Distance Education
University of Kerala

Social

Statistics



Introduction

Al-Kindi

Arab Polymath,
First known use of Statistical methods

Sir. Ronald Fischer

English Statistician,
Father of
Modern Statistics

PC Mahalanobis

Indian Statistician,
Father of
Indian Statistics

"Statistics are numerical statements of facts in any department of enquiry, placed in relation to each other"

- Sir Arthur Lyon Bowley

What is Statistics?

The science of collecting, summarizing, analyzing, and interpreting numerical statement of facts(called data).

Term coined by Hermann Conring(1660), used the term *Statistik.*

Latin root word “Status”, meaning “group of numbers or figures”

What is Statistics?

Aggregate of facts, expressed mathematically.

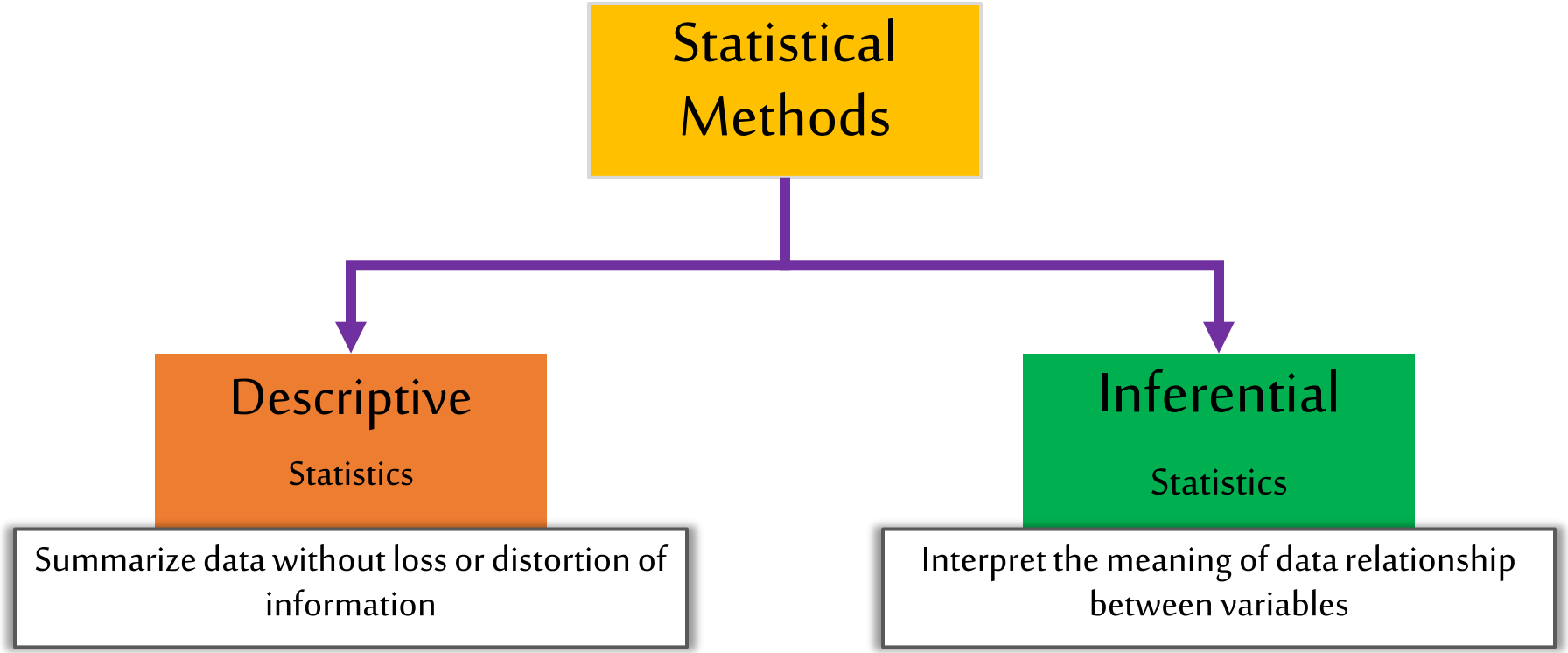
Placed in relation to each other

Used to analyze the multiplicity of causes.

In social science - used to test the tentative solution to a problem.

Helps formulate and test hypothesis, also make predictions

Types of Statistics?



Limitations of Statistics?

- Studies only Quantitative aspects of data and qualitative aspects.
- Only gives an aggregate measure and not the real picture or entire story
- Accuracy is highly dependent on data and method used
- Data collection needs to be highly specific and many not be reusable.

Organizing and Visualizing Data

Organizing Data

Raw Data – recorded in the same order without processing or ranking

Classification of Data

What

the process of arranging, sorting and categorizing raw data into classes

Ensures effective and efficient use of data

Classification of Data

Why

- Simplifies analysis of the large mass of data
- Brings out similarity and dissimilarity among samples
- Helps study relationship between the attributes/features/characteristics

Tabulation

What

- Sorting and placing data in table based on classification
- Tables must be well defined and structured

Why

- Concise, lucid and legible; also ensure easy correction of errors
- Facilitates comparison between samples and establishing relation between also features
- Reduces need for explanatory notes

Frequency distribution table

What

- Divides observations into numerically ordered groups
- The count of observations in each class is noted

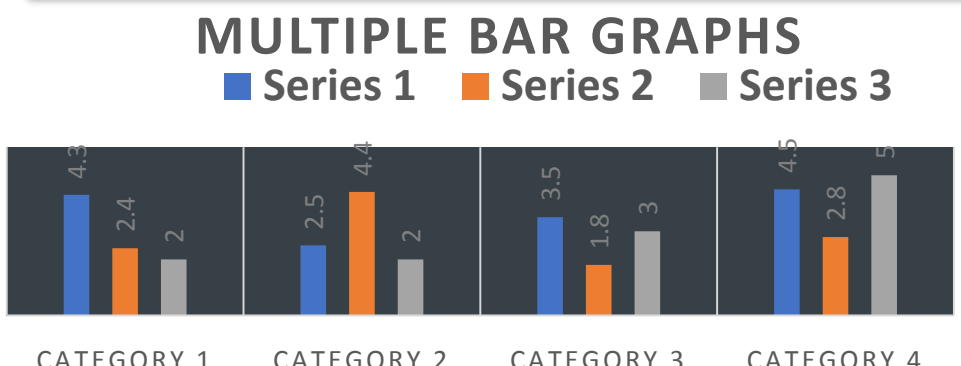
Class	Frequency	Class Mark
10-20	2	15.5
20-30	9	23.3
30-40	5	36.4
40-50	6	46.2
50-60	5	55.2
61-70	3	63.5
71-100	1	74

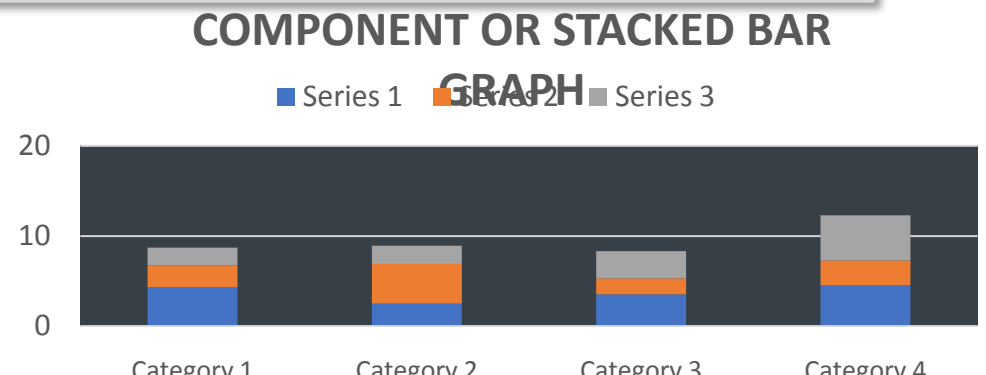
Visualizing Data

Bar Graphs

What

- Quantities are represented as bars(of equal width)
- Height represents the value
- Simple Bar, Multiple Bar, Component Bar graphs

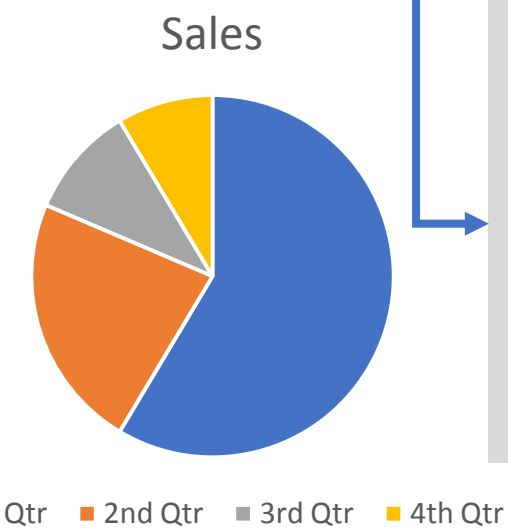




Pie Graphs

What

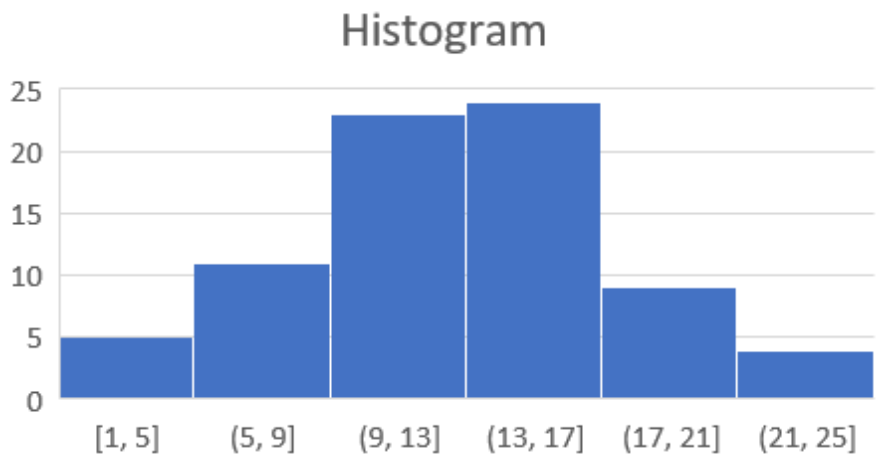
- A circle I divided in to slices
- Length of arch of each slice represents the numerical proportion
- Enables
  - Comparison between components
  - Comparison between component and whole



Histograms

What

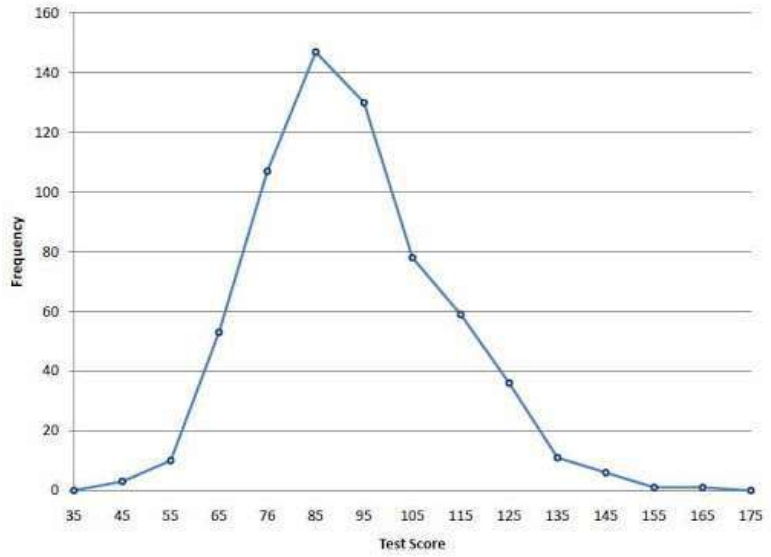
- Classes are marked on the horizontal axis
- Frequencies, relative frequencies are marked on the vertical axis



Histograms

What

Formed by joining midpoints of tops of successive bars in histograms.



Thank you..