

Biostatistics

Practical 1

Prepared by Dr. Ibrahim AL-Jaafari

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Exercises for practical 1

Briefly explain the terms population, sample, descriptive statistics, inferential statistics, variable, continuous variable, discrete variable, nominal variable, ordinal variable, and binary variable??

Briefly explain the difference between a census and a sample survey. Why is conducting a sample survey preferable to conducting a census?

Explain whether each of the following constitutes a population or a sample.

- a. Number of all students in AL-Baha University**
- b. Blood pressure measurement of 100 patients in the hospital**
- c. Number of 100 cases of breast cancer in the region**
- d. Number of all homeless in the country**
- e. Amount spent on prescription drugs by 200 company in the city**

Definition

Element or Member An *element* or *member* of a sample or population is a specific subject or object (for example, a person, firm, item, state, or country) about which the information is collected.

Definition

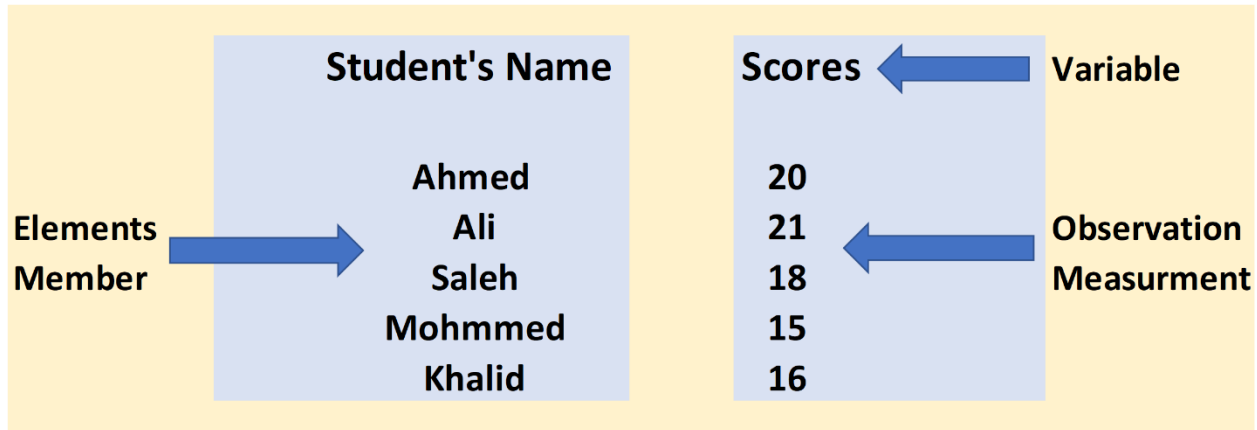
Observation or Measurement The value of a variable for an element is called an *observation* or *measurement*.

Definition

Data Set A *data set* is a collection of observations on one or more variables.

The following table gives the number of students with their scores in biostatistics.

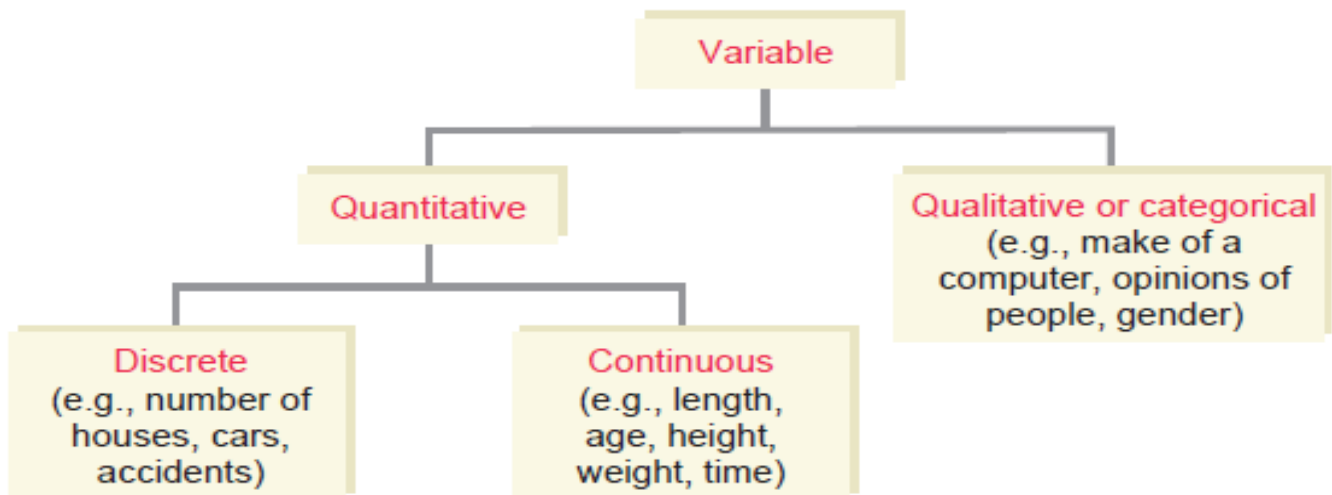
Briefly explain the meaning of a member, a variable, a measurement, and a data set with reference to this table.



Refer to the above data set.

- What is the variable for this data set?
- How many observations are in this data set?
- How many elements does this data set contain?

What are the types of variables?



Explain the meaning of the following terms.

- a. Quantitative variable**
- b. Qualitative variable**
- c. Discrete variable**
- d. Continuous variable**
- e. Quantitative data**
- f. Qualitative data**

Indicate which of the following variables are quantitative and which are qualitative.

- a. Number of persons in a family**
- b. Colors of cars**
- c. Marital status of people**
- d. Time to arrive from home to work**
- e. Number of errors in a person's credit report**

Definition

Cross-Section Data Data collected on different elements at the same point in time or for the same period of time are called *cross-section data*.

Reference: Prem S. Mann 1998, Introductory Statistics, 7th edn, New York, USA