DATA

Definitions:

Population: the total group of individuals or items.

Sample: a group of individuals or items chosen from the population.

Data: the information collected from the sample or population.

Statistic: a number calculated from the sample data.

Parameter: a number calculated from the population data.

Types of data:

Data may be either *qualitative* (categorical) or *quantitative* (numerical)

- *Qualitative Data* (classified or labelled).
  Data is put into non-numerical categories. Blood type, religion, cause of death, are all examples of qualitative data.

- *Quantitative Data* (counted or measured).
  There are two types of quantitative data.
  - *Discrete Data:* data is put into categories depending on its counted number; for example, the number of children in a family.
  - *Continuous Data:* data is put into categories depending on its measured size; for example, height.

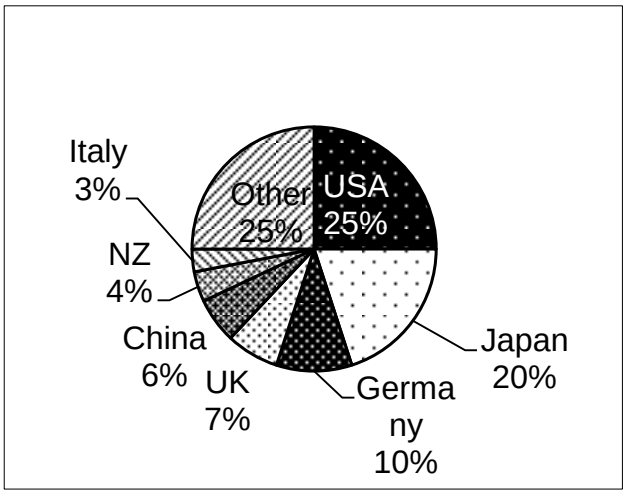
Graphical Representation

Qualitative/Categorical data is often represented by means of a bar chart or a pie chart.

Example 1

The table shows the percentage of imports from various countries. This data can be represented on a pie chart so that comparisons are easier:

Country	Imports
USA	25
Japan	20
Germany	10
UK	7
China	6
New Zealand	4
Italy	3
Other	25

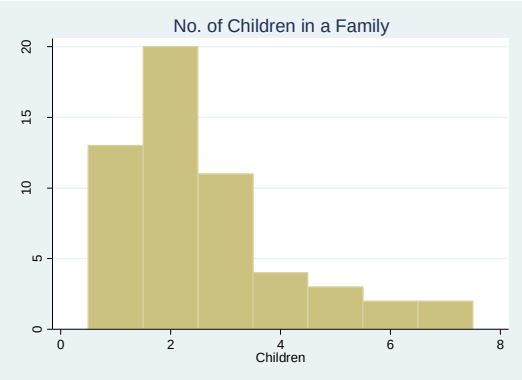


Quantitative/Numerical Data is often represented by means of a frequency bar chart called a histogram.

Example 2

A group of school students were surveyed to find the number of children in their families. This data can be represented using a histogram.

No. of Children	Frequency
1	13
2	21
3	11
4	4
5	3
6	1
7	1
Total	54



Exercises

1. Label each of the following as either a categorical or numerical variable. For the numerical variables label each as either discrete or continuous.

(a) Hair colour
(b) A person's religion
(c) A person's height
(d) Number of children in a family
(e) The weights of babies born on a particular day
(f) The number of crimes committed in Victoria each week
(g) The distance travelled to work by the employees of a large company
(h) The make of car driven by students at RMIT

2. Represent the data in example 1 in a bar graph.

Answers

1.(a) Categorical
(b) Categorical
(c) Numerical – continuous
(d) Numerical – discrete
(e) Numerical – continuous
(f) Numerical – discrete
(g) Numerical – continuous
(h) Categorical

2.