

Data Handling

Introduction

- In this chapter we shall learn how to make a given set of data easily understandable.
- By data, we mean a collection of numbers gathered to give some specific information. For example the number of runs scored in a cricket match, the number of pens in your table, etc .
- One of the major part of mathematics, deals with organising and analysing various data.
- It is also useful in other subjects like statistics, physics, economics, etc.

Representing data

- The major goal of this chapter is to learn ways of representing data in a coherent manner.
- We **can** do this by using a variety of techniques to be discussed now.
- First and foremost we can use simple tally table (shown below) to represent the frequency with which a particular event is occurring .

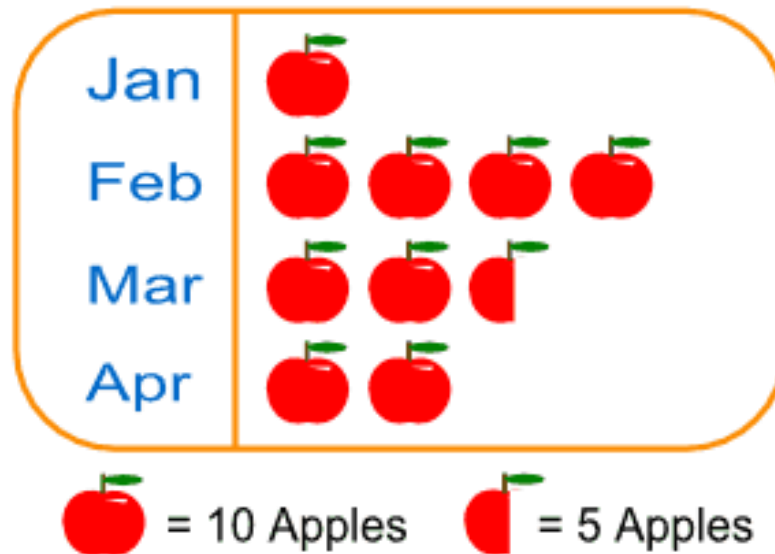
1		6	
2		7	
3		8	
4		9	
5		10	

Pictograph

- . We can use a pictograph to represent data.
- . A **pictograph** is nothing but representing a particular set of data using pictures of objects.
- . It is widely used in newspapers and other forms of media.

Pictograph

- For example, the pictograph depicted below shows the number of apples sold in Jan, Feb, Mar and Apr.

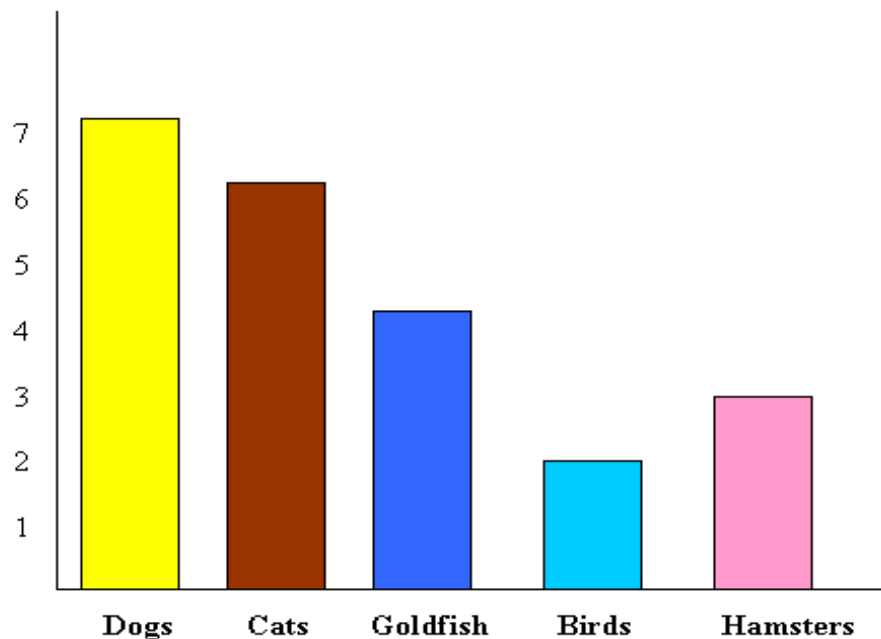


Bar Graph

- . One of the most widely used methods of representing data is via **bar-graphs**.
- . These are horizontal or vertical bars at a fixed distance representing certain specific information.
- . This form of data representation is widely used in televisions.

Bar Graph

- For example, Bar graph, depicted below shows the availability of animals over some given area ! The advantage with Bar graphs is that they directly , give us some indication of measure between the entities. For example, we can directly say , the number of Birds is half the number of cats present !



MODE-Mode of a set of observations is the value of the observation that occurs most frequently.

$$\textbf{\underline{Mode=3Median-2Mean}}$$

Steps to find Mode:

- Obtain the set of observations i.e. ungrouped data
- Count the number of times the various values repeat themselves. In other words, prepare the frequency table.
- Find the value which occurs the maximum number of times i.e. obtain the value which has the maximum frequency.
- The value obtain in step-3 is the Mode.

MEDIAN-

Median of a group of observations is the value of the variable which divides the group into two equal parts.

Steps to find Mode:

Arrange the observation in ascending or descending order of magnitude.

Determine the total number of observations, say, n .

If n is ***odd***, then use the formula :

If n is ***even***, then use the following formula: