

Bio statistics

Data consists of observation of attributes that carry little meaning when considered alone. Data collected should be transformed into information by reducing, summarizing, then to variations such age and sex, time place. If it done with integration and processing then it is intelligence.

Census

- ① Important source of health information which is at regular intervals usually at 10 years.
- ② UN defines it as the process of collecting, compiling and publishing demographic, economic and social data at a specified time of all people.
- ③ Census is very difficult as all the people of population has to be contacted so it is time consuming.
- ④ The First census in India was in 1881 and then took at 10 years interval last being 2011.
- ⑤ It is usually taken at the ^{end of} quarter of life i.e. of the first year in each decade, reason being thinking most people will be in home at that period.
- ⑥ It not only gives information about ~~be~~ demography but also the social & economic, how they work, where they live, income are given.
- ⑦ It is not only serves medicine but also in the entire government system.

Vital statistics:

- Census is an intermittent counting of population, but registration of vital event (birth, death). keeps continues check on demographic changes. If it is done properly it provides reliable health information.
- The Central Birth and death Registration Act 1969 made all people to register death & birth.

TABLEATION

- Tables are devices for presenting data simply from masses of statistical data.
- It is the first step before the data is being used for analysis or interpretation.
- A table can be simple or complex depending upon number of measurement.
- A table should contain
 - 1) Tables should be numbered Table 1, Table 2, etc.
 - 2) A title must be given to each table must be brief and self explanatory.
 - 3) The heading of columns and rows should be clear and concise.
 - 4) Presented according to size, ^{or} importance, chronological or, numerical ⁿ or geographical.
 - 5) If percentage or averages are to be compared they should be placed as close as possible.
 - 6) No table should be too large.
 - 7) Mostly vertical table is used than horizontal because it is easier to scan from above downward than left to right.
 - 8) Foot notes may be given whenever necessary providing additional information.

1) Simple table:

Table 1
Patients in Hospital*

Year

2015

2016

2017

2018

No patients

1111

2222

2333

4444

* ~~Provide~~ Source = Hospital.

2) Frequency distribution table:

The data is first split up in convenient groups (class intervals) and the number of items (frequency) which occur in each group is shown adjacently.

EX: ^{Age} Patient in hospital admitted by Dengue and their age -

1 8, 11, 18, 20

2 8, 12, 17, 21

1 8, 13, 19, 22

9, 11, 23

10

11

13

Table 3
Age distribution of Dengue

Age	No. of patients
0-4	3
5-9	5
10-14	8
15-19	3
20-24	4

Table prepared

Age group

Frequency

Frequency

0-4

111

3

5-9

1111

5

10-14

1111

8

15-19

111

3

20-24

1111

4

If the data is large it is split into 20 groups (Class interval) if small 5 groups.

Charts and diagrams

- Useful for presenting simple statistical data.
- Powerful impact on imagination of people. So useful in newspapers, magazines.
- Diagrams are better retained. It should be simple but not at expense of the details.

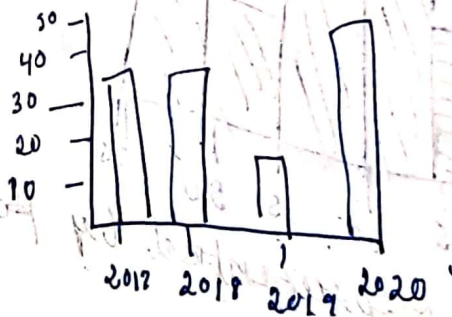
1) Bar chart

- Presenting a set of numbers on the length of bar.

a) Simple bar chart

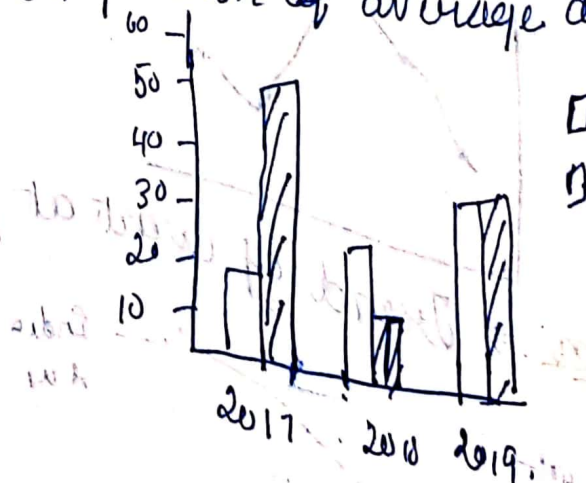
- Can be vertical or horizontal.
- Are given space for neatness.

Averages of Cricket players.



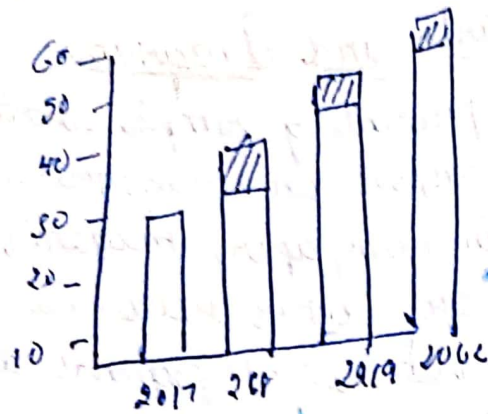
b) Multiple Bar chart

Comparison of average of batsman



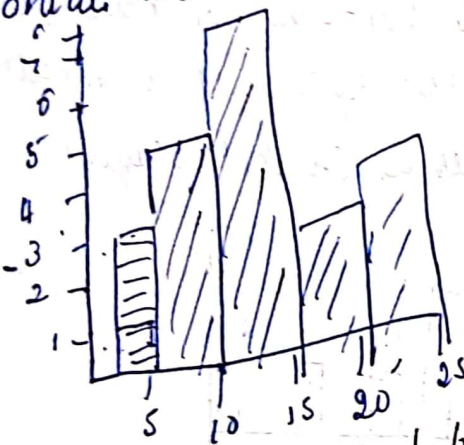
1) Component Bar chart

Bar contains two or more parts



2) Histograms

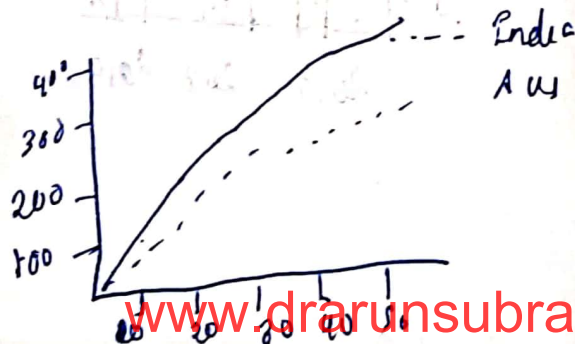
It is a pictorial representation of the frequency distribution with class interval in horizontal and frequency in vertical.



It may be also represented by frequency polygon.

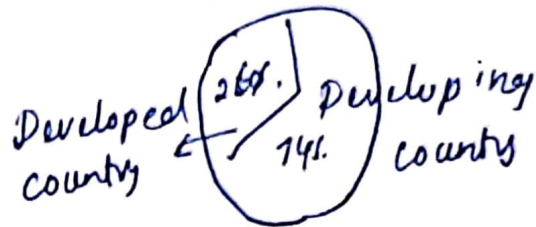


Line Diagram → Trend of event at passage of time



3) Pie charts:

- Instead of comparing the length of bar charts the areas of segments are compared.
- Used in indicating the percentage of the segments.
- Sometimes difficult in identifying.



4) Pictogram:

- Presenting data to a man in the street who cannot understand orthodox charts.
 - Small pictures are used to present.
- Eg.: Number of physician ~~for~~ per population.

