

GRAPGHICAL PRESENTATION

1- THE LINE GRAPH

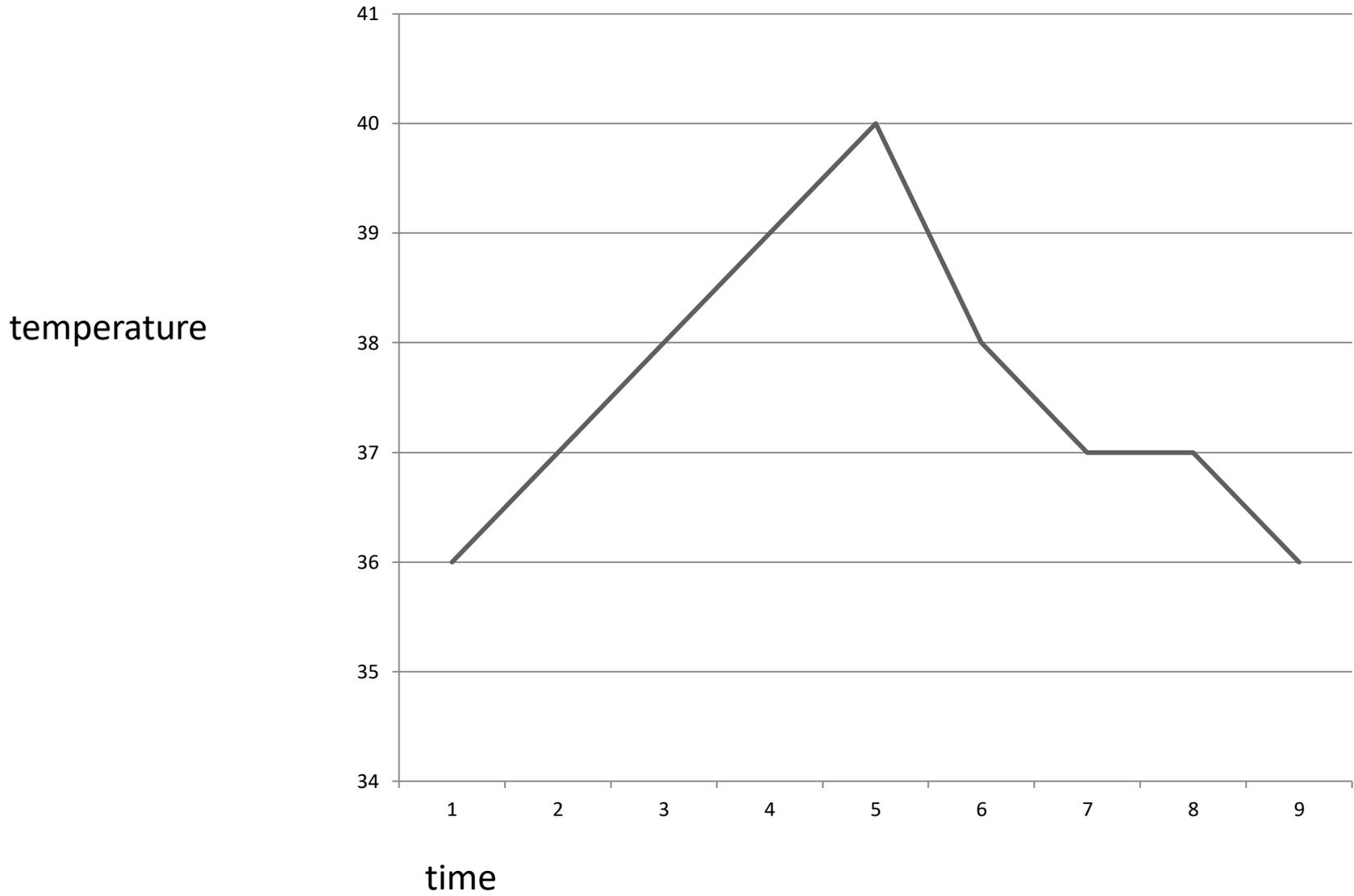
- This type is specifically used when we are dealing with a certain observation that varies according to *time*.
- That is when we are dealing with a time variable. (The time variable is a special type of continuous quantitative variable)

Usually the time variable is put on the horizontal axis (X-axis) and the other variable is put on the vertical axis (Y-axis), then each observation is shown on the graph by means of a point opposite to the exact time value on the horizontal axis and opposite the corresponding value on the vertical axis, then every two consecutive points are joined by a straight line.

Example of this is a temperature chart of the patient. It is also used in study of trends of birth and death rate

Time	temperature
1	36
2	37
3	38
4	39
5	40
6	38
7	37
8	37
9	36

temperature of the patient



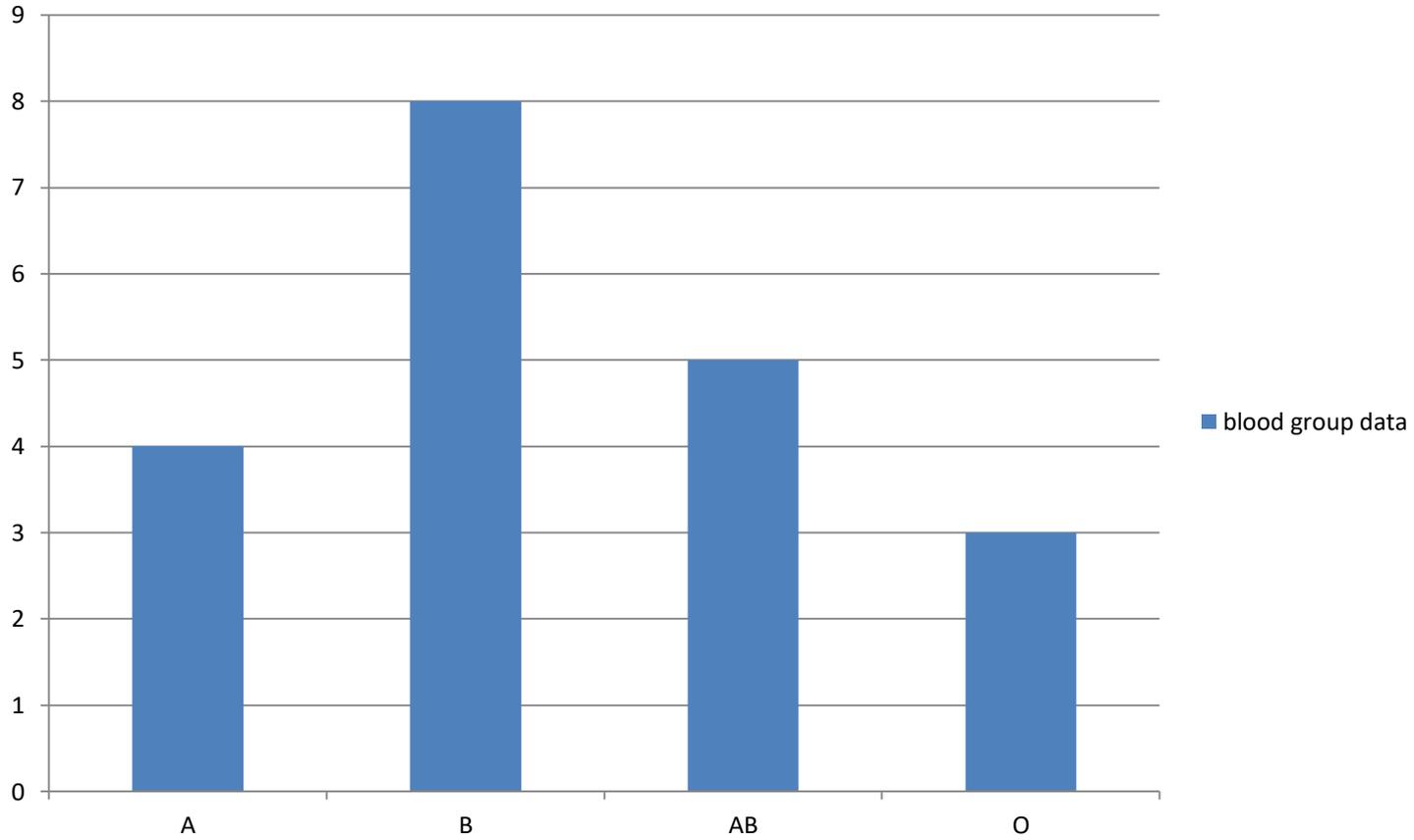
2- THE BAR CHART:

- This type of graph is suitable to represent data of the two subtypes of qualitative and quantitative discrete type.
- Each category in the table is represented by a bar or column or rectangle,
- So the height of the bar is opposite to the corresponding frequency on the Y axis.
- All bars must have the same width and a space must be left between every two consecutive bars, the width of that space is about same or half the width of the bar.

Example:

Blood Group	Frequency
A	4
B	8
AB	5
O	3
Total	20

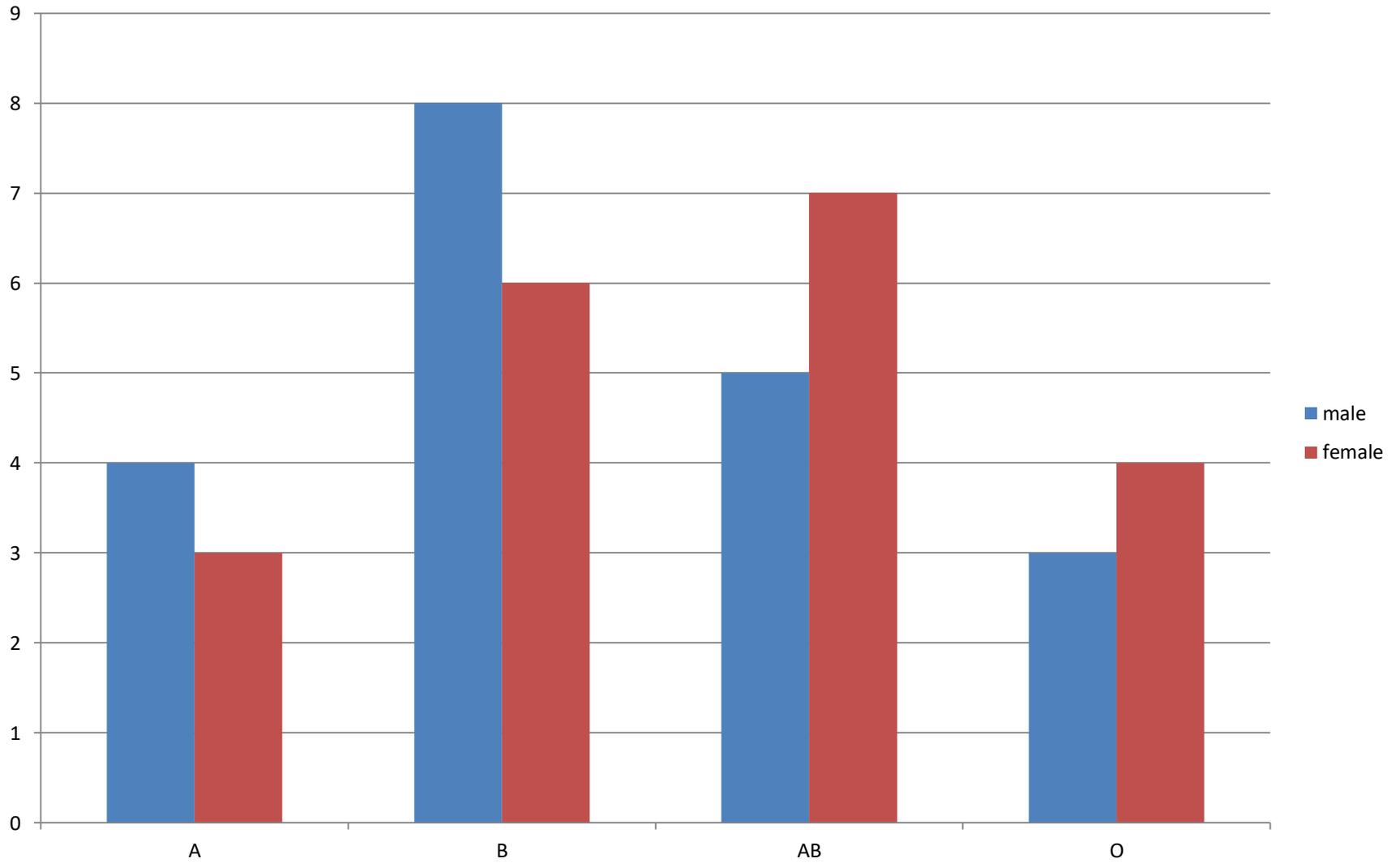
blood group data



N.B: sometimes a complex table can be represented by means of a bar graph, in such case a key must be added to the graph to show different types of bar

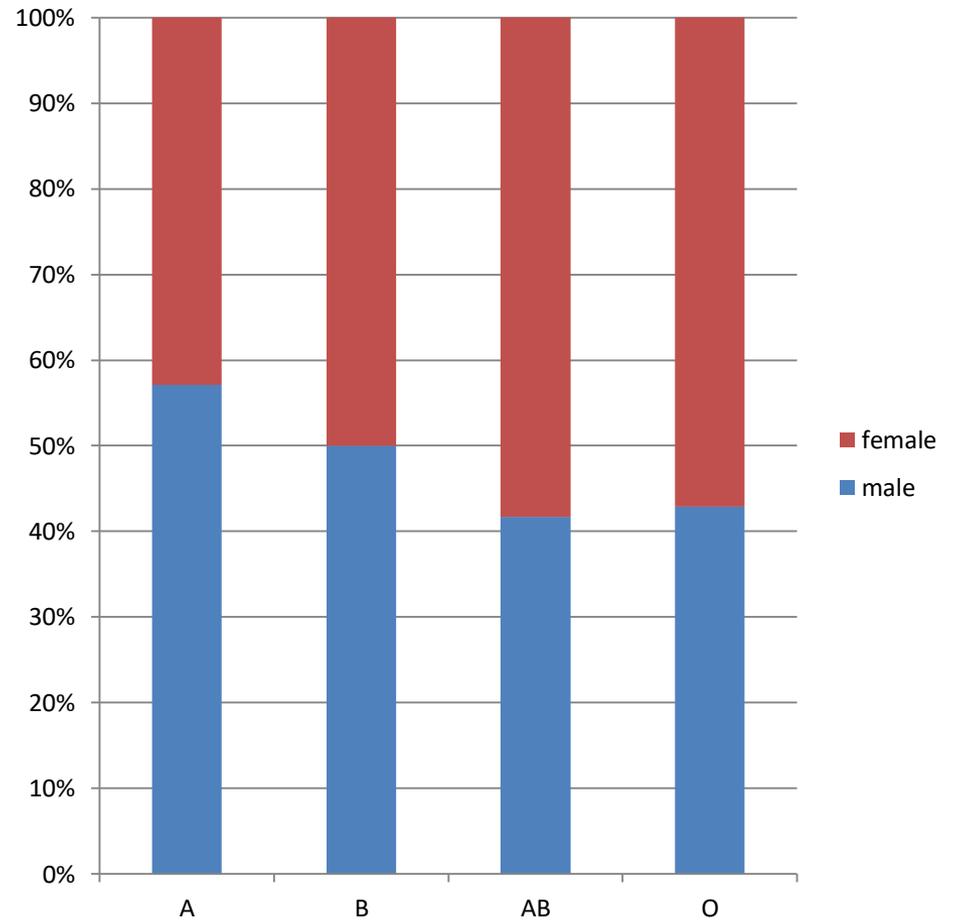
Blood Group	sex	
	Male	Female
A	4	3
B	8	6
AB	5	7
O	3	4
Total	20	20

Clustered bar chart



Stacked bar chart

blood group	male	female
A	4	3
B	8	8
AB	5	7
O	3	4

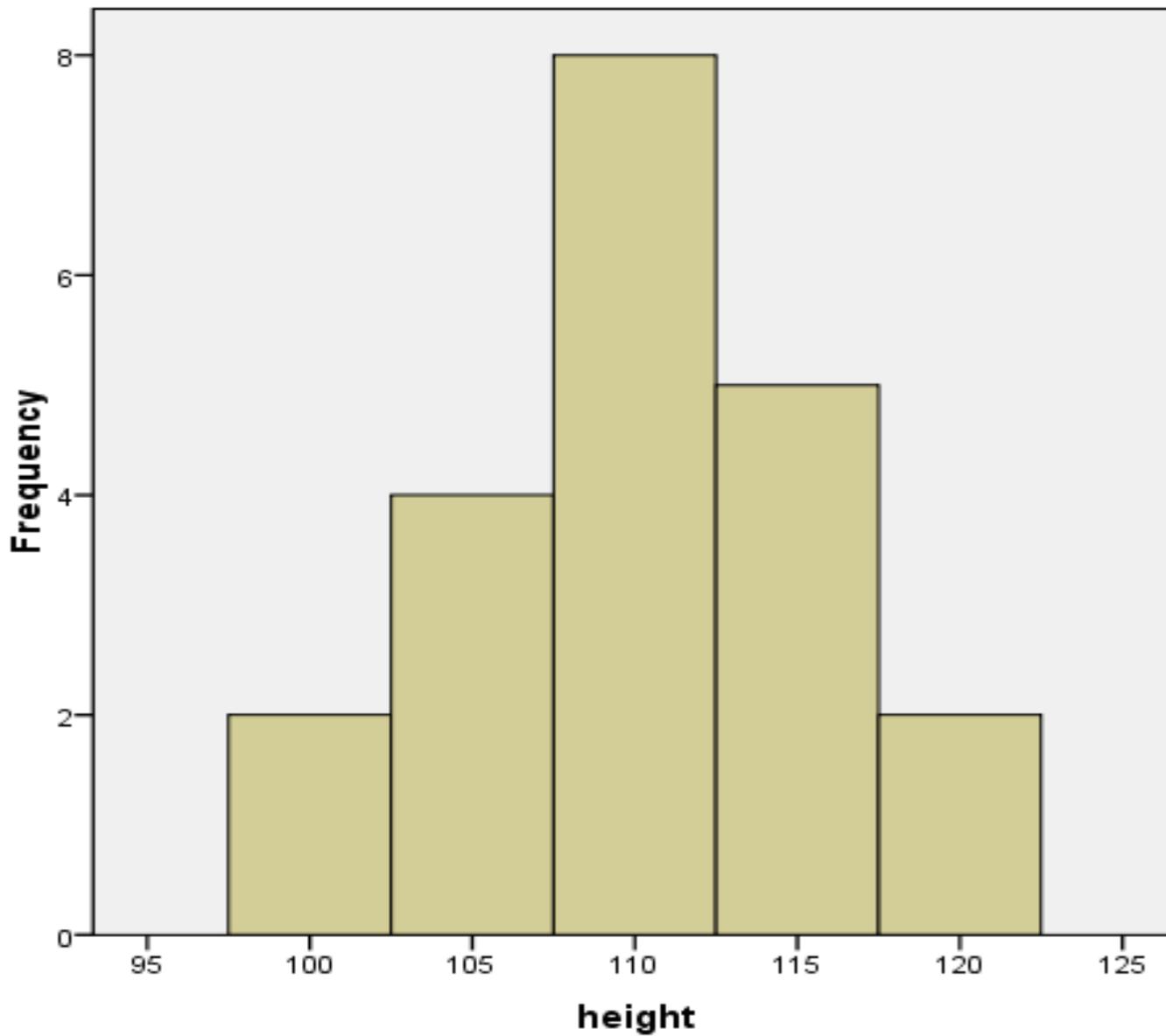


3- THE HISTOGRAM

- ✓ The histogram is suitable for continuous quantitative variable
- ✓ In the histogram each interval in the table is represented by a column,
- ✓ the height of which is opposite the frequency on Y axis. One side of the column should arise from the lower limit of the interval and the other from the upper limit of the interval on the X axis.
- ✓ So, no space between the consecutive columns.

N.B: Sometimes in histogram a scale break is used when the lower limit of the first interval is far from zero, this is allowed only on the horizontal axis, it should not be used on the vertical axis

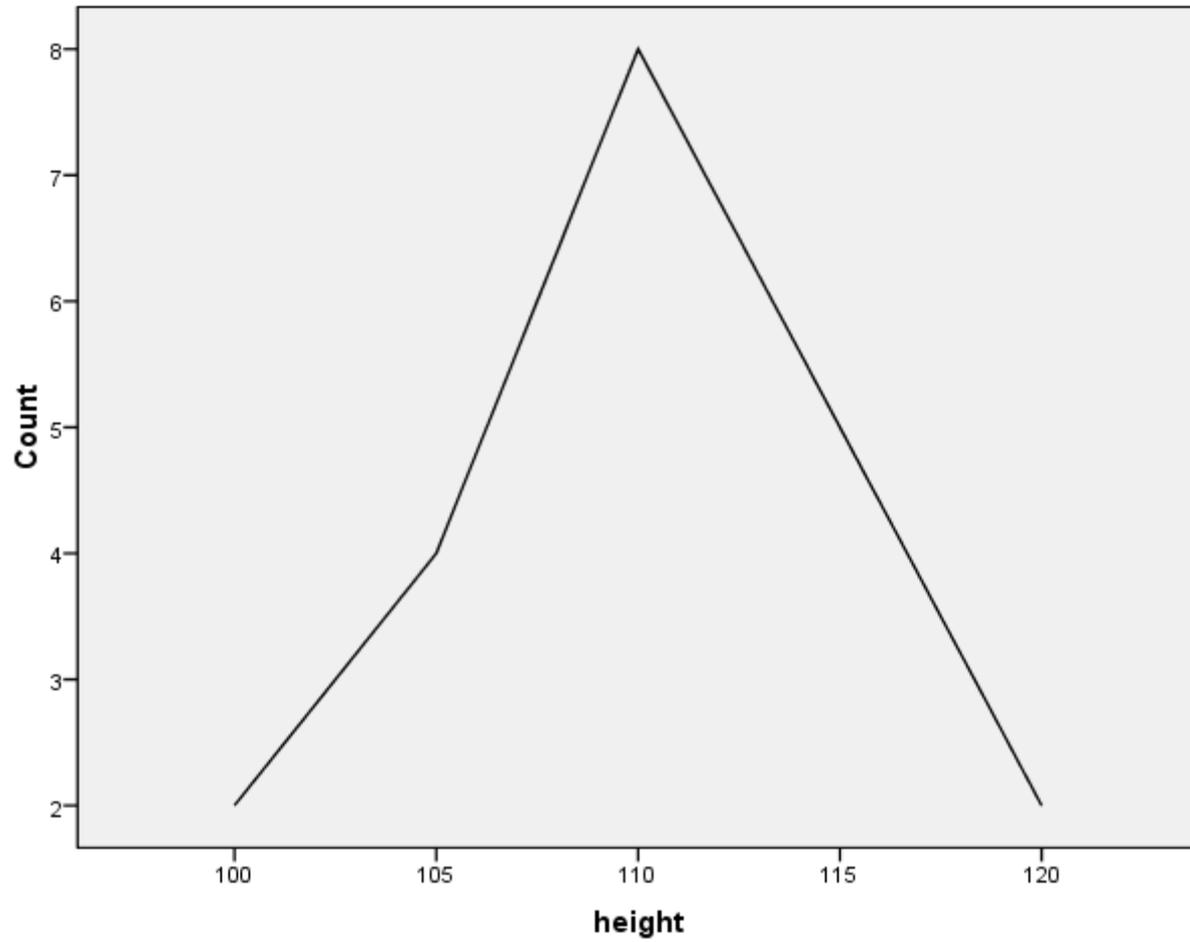
Height in (cm)	No. of children
100-	2
105-	4
110-	7
115-	5
120-125	2
Total	20



Mean =110.24
Std. Dev. =5.585
N =21

4- THE FREQUENCY POLYGON:

- This type is used when the variable is of **continuous quantitative type and the table is of simple or complex type.**
- Each category on the table represented by single point opposite its frequency on Y axis and **the mid-point of the interval on X axis.**
- Then every two consecutive points are joined together by a straight line.
- *the scale break may be used, also key may be used when necessary.



Height in (cm)	sex	
	Male	Female
100-	2	3
105-	4	6
110-	7	6
115	5	4
120-125	2	1
Total	20	20

5- THE PIECHART

- It can be used for all of the four types of variables, the circle is divided into a number of sectors equal to the number of categories or intervals in the table,
- usually the division of the circle starts from 12 O'clock and it goes in a clockwise direction. Each sector is proportional to the frequency of the category.
- This is changed by calculating the angle of each sector.

$$\text{Angle} = \frac{\text{frequency of the category or interval} \times 360}{\text{Total frequency}}$$

Types Of Parasite	Frequency	Angle
Ascaris	6	86.4
Bilharzia	10	144
Oxyuris	5	72
Ent.Histolytica	4	57.6
Total	25	360

frequency

