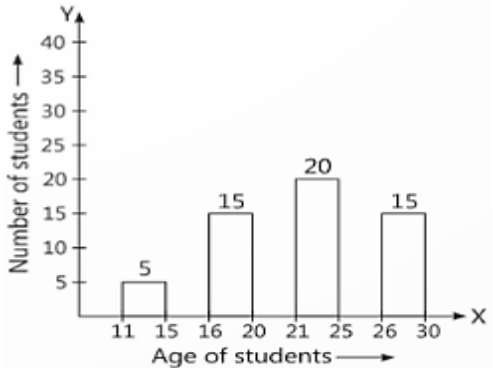
Statistics

Case Study

1. A teacher is a mentor of students who helps in development of skills, knowledge, temperament and attitude. For that, teacher may work with students as a small group or one to one in a regular interval. The data collected by the teacher of different age groups are shown below:



i) The data collected by the teacher of different age group is:

a) 30 b) 50 c) 55 d) 40

ii) The number of students whose age is less than 21 yr is:

a) 18 b) 20 c) 24 d) 22

iii) The class mark of the interval in which most of students lie in that interval is:

a) 18 b) 22 c) 23 d) 25

iv) The width of the third class interval is:

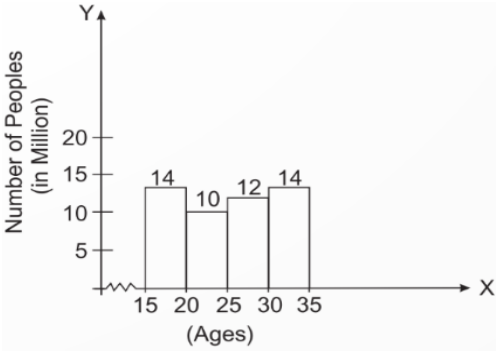
a) 5 b) 4 c) 4.5 d) 5.5

v) The range of the given data is:

a) 10 b) 14 c) 25 d) 15

2. India began its vaccination programmed on 16th January 2021. Within one year a massive population above 18 yr vaccinated upto 80% with double dose and 70% of children from age group 15 to 18 by taking 1st dose. This is all possible in short span of time due to combine efforts of governments and the citizens. The data collected by the government of vaccinated population is shown below.

Ages	15-20	20-25	25-30	30-35
Number of peoples (in million)	14	10	12	14



i) Upper limit of the fourth class interval is:

a) 30 b) 35 c) 35.5 d) 30.5

ii) The class mark of 3rd class interval is:

a) 27 b) 27.5 c) 28 d) 28.5

iii) The number of people having ages more than 25 is (in million):

a) 25 b) 26 c) 23 d) 24

iv) The number of peoples having maximum ages of 30 is (in million):

a) 36 b) 34 c) 33 d) 38

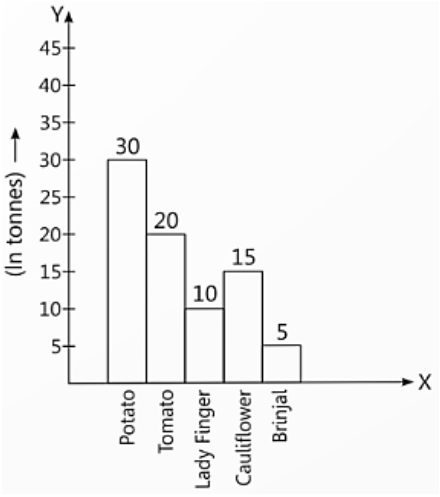
v) In a histogram, the class intervals on the groups are taken along:

a) X-axis b) Y-axis c) Both a. and b. d) in between X and Y axes

3. Department of Agriculture, cooperation and farmers welfare conducted a survey to determine the production of a crop in the year 2021 in the city of Amritsar. The data is given below:

Foodgrains production **(In '000 MT)**

Crop	2014-15	2015-16	2016-17 Adv. Ext.	2017-18 (Target)	2018-19 (Target)
I. Foodgrains					
Rice	127.38	129.88	146.59	132.00	132.00
Maize	735.96	737.65	784.29	740.00	742.00
Ragi	1.91	1.93	2.12	2.20	2.10
Wheats	648.29	667.62	704.21	670.00	690.00
Rice	36.70	34.33	35.82	36.00	36.00
Gram	0.38	0.38	0.40	0.45	0.45
Pulses	53.87	59.17	67.40	61.00	62.50
Foodgrains	1604.49	1630.96	1740.83	1641.65	1665.05
II. Commercial Crops					
Potato	161.30	103.25	195.84	200.00	195.00
Vegetables	1576.45	1608.55	1633.51	1540.00	1650.00
Chilli(Green)	16.50	32.33	35.39	32.70	35.00



On the basis of the above information, solve the following questions.

i) Which crop has maximum production?

ii) Find the total production of crops.

iii) What is the percentage of tomato crop in the given production?

4. National Sample Survey Office (NSSO) conducted a survey on the number of people who get infected in a village at time of monsoon and from what disease they got infected. The data has been given below.

Diseases	**Number of infected people** (in Lakhs)
Malaria	10
Dengue	15
Typhoid	18
Cholera	5
Diarrhoea	7

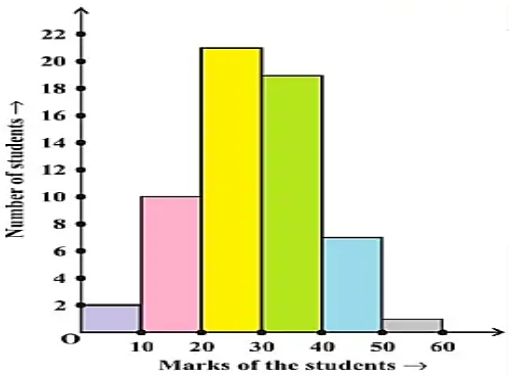
On the basis of the above information, solve the following questions.

i) Find the range of the infected people.

ii) Which diseases, the maximum people are affected?

iii) Draw the bar chart from the given data.

5. Anil is a Mathematics teacher in Hyderabad. After Periodic test 3, he asks students to collect the Mathematics marks of all the students of Class IX- A, B and C. A student is able to collect marks from some students. Rekha scored least mark 6 in the class and Ram scored highest marks 59 in the class. He prepares the frequency distribution table using the collected marks and draws Histogram using the table as shown in adjoining figure.



i) What is the width of the class?

a) 10 b) 15 c) 5 d) 20

ii) What is the total number of students in Histogram?

a) 50 b) 60 c) 65 d) 55

iii) How many students scored 50% and above marks?

a) 19 b) 26 c) 27 d) 33

iv) How many students scored less than 50% marks?

a) 19 b) 26 c) 27 d) 33