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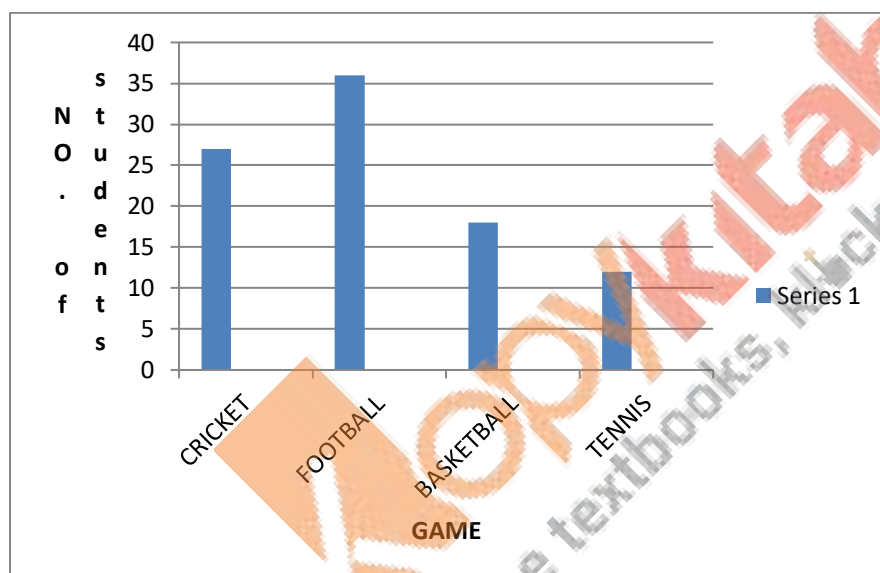
# BAR GRAPH, HISTOGRAM AND FREQUENCY POLYGYON

## CHAPTER 17

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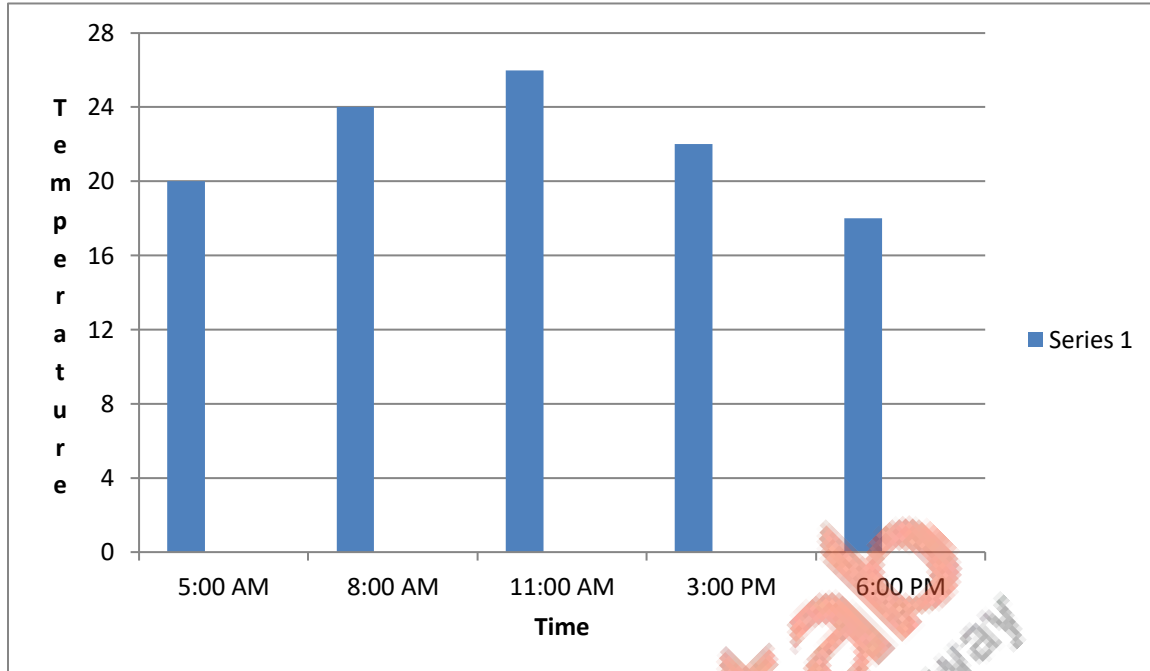
### EXERCISE17A

Answer 1:

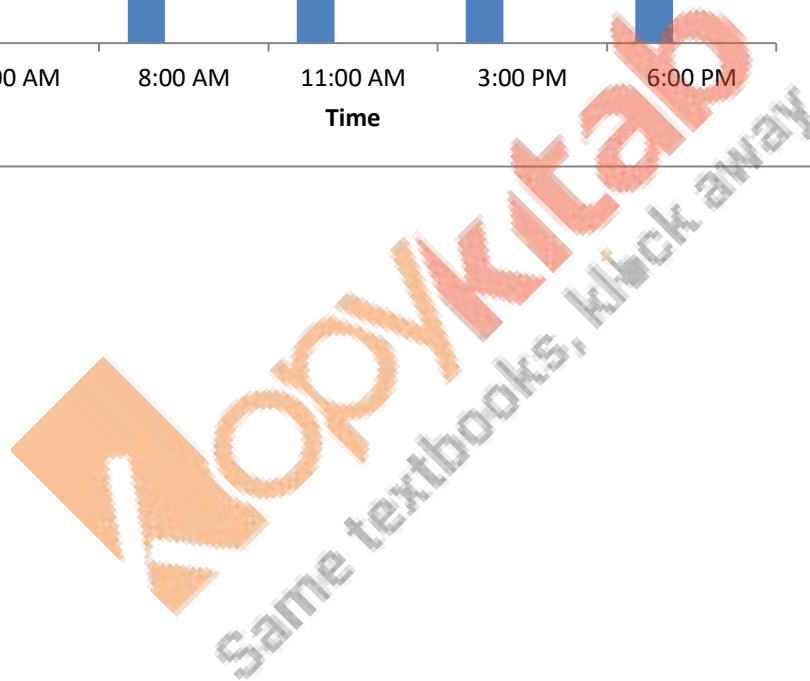


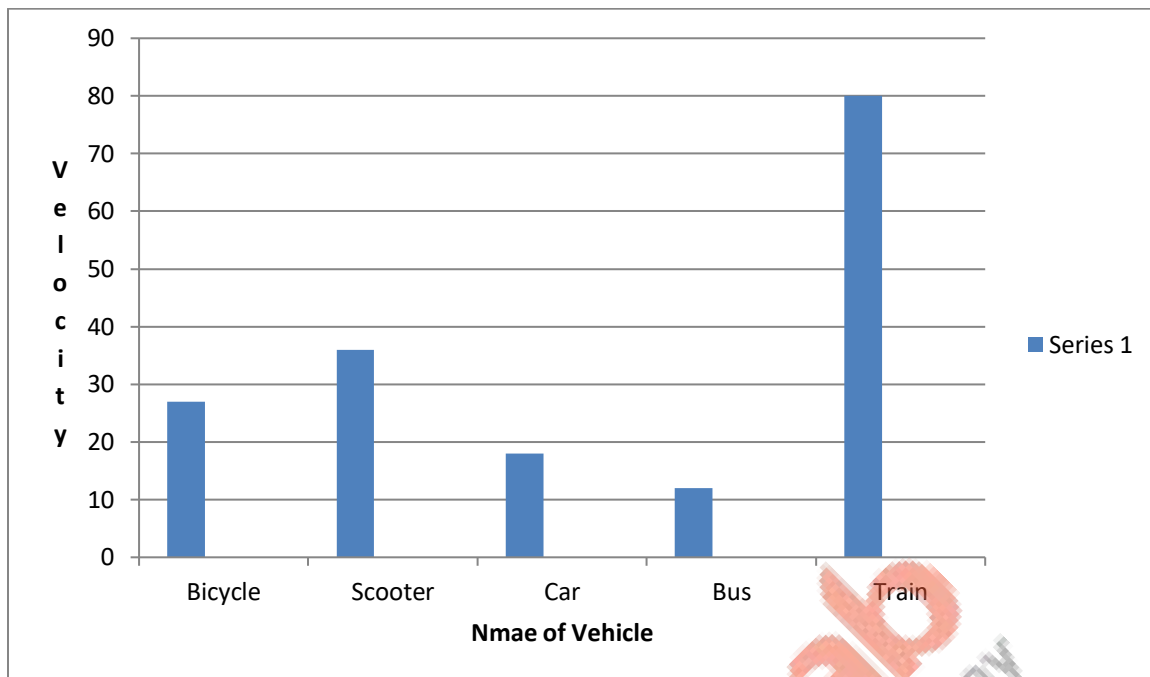
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**Answer 2**

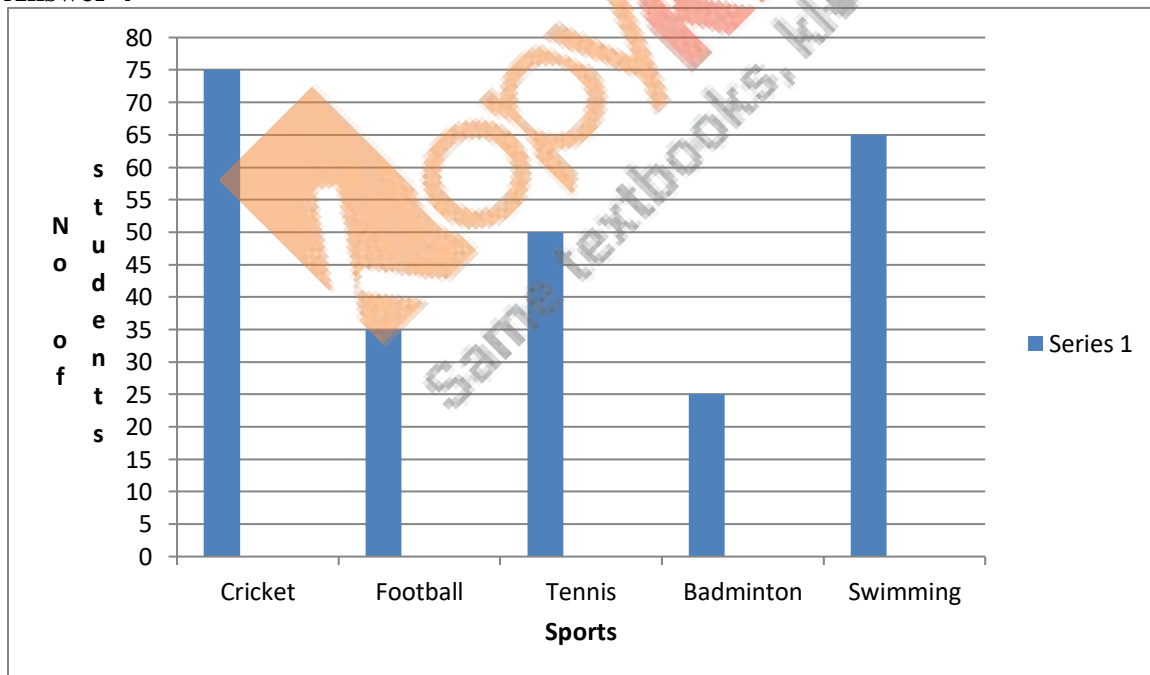


**Answer 3:**

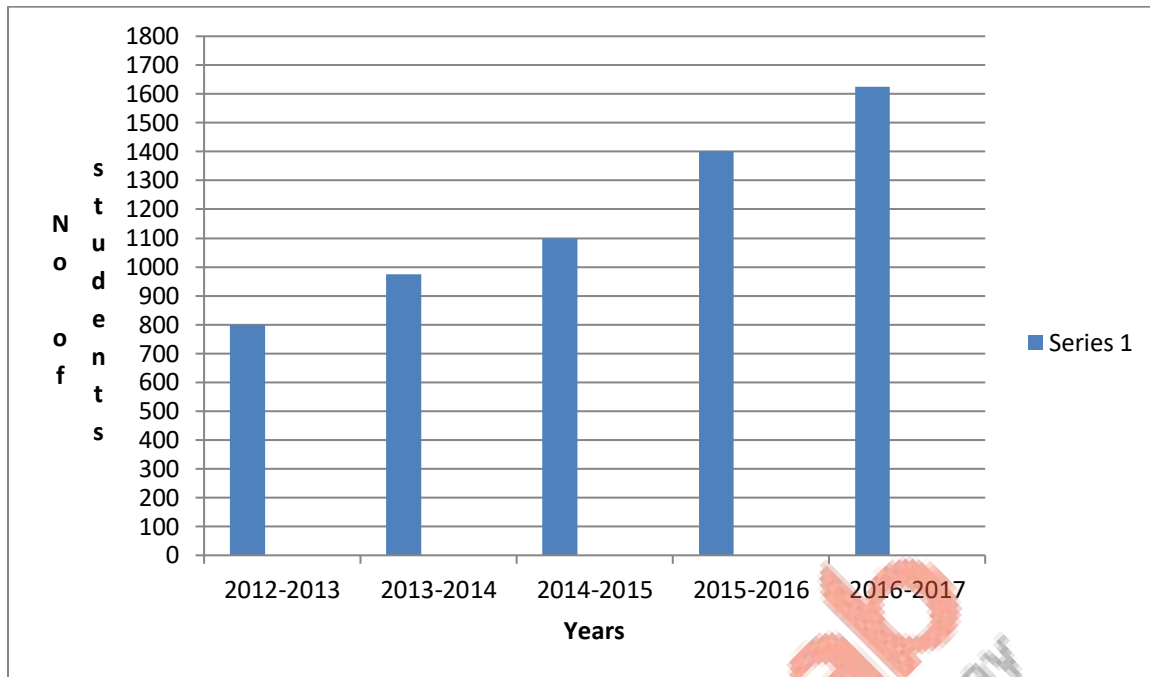




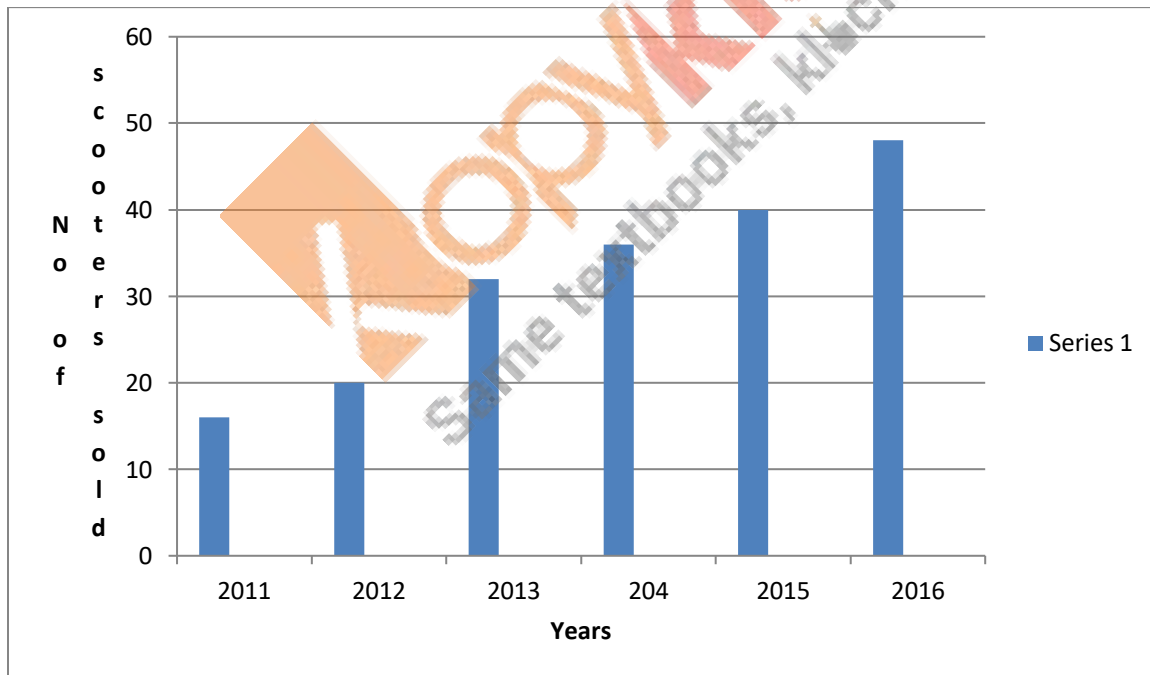
**Answer 4**



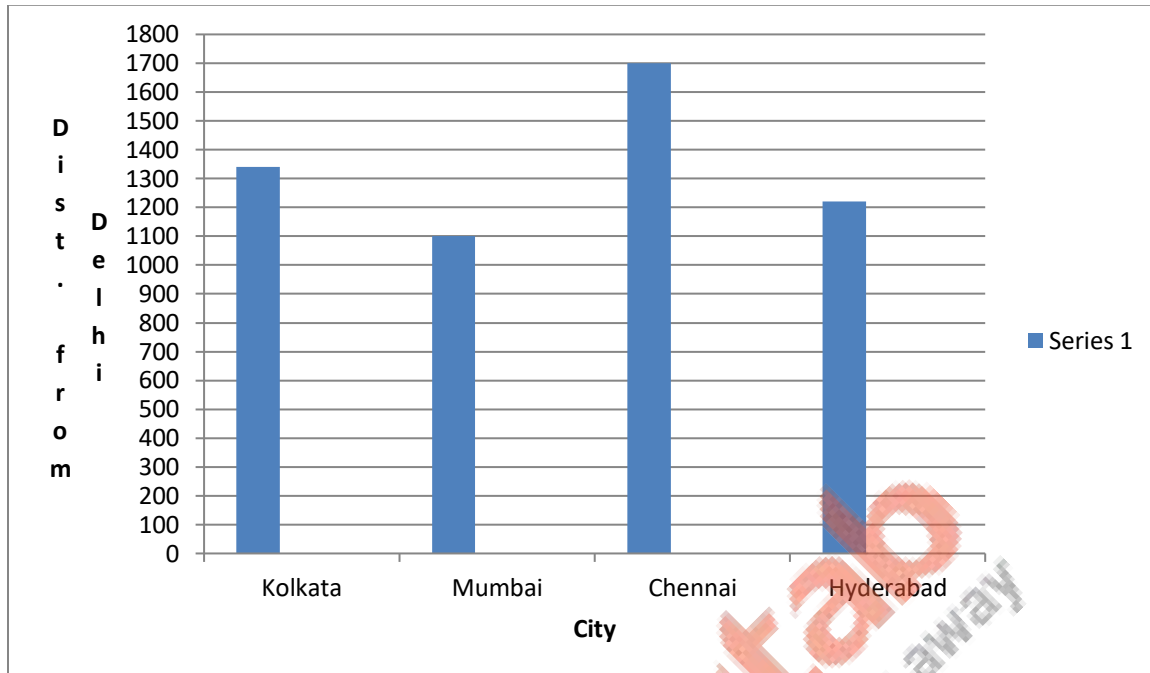
**Answer 5:**



**Answer 6:**



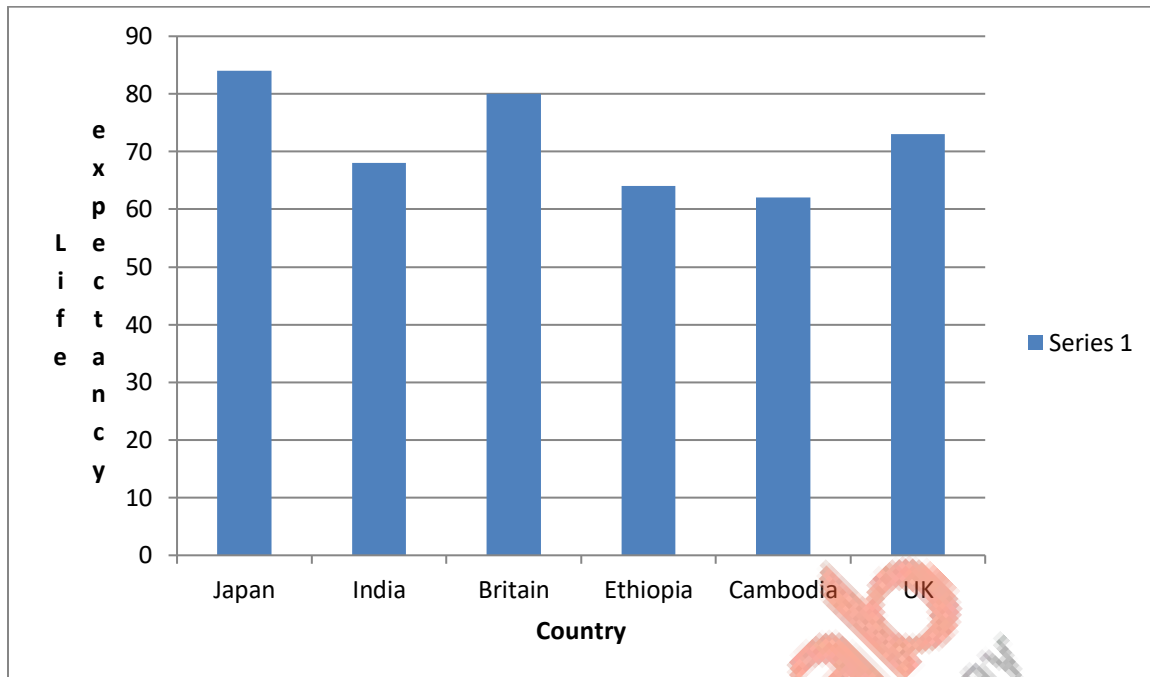
**Answer: 7**



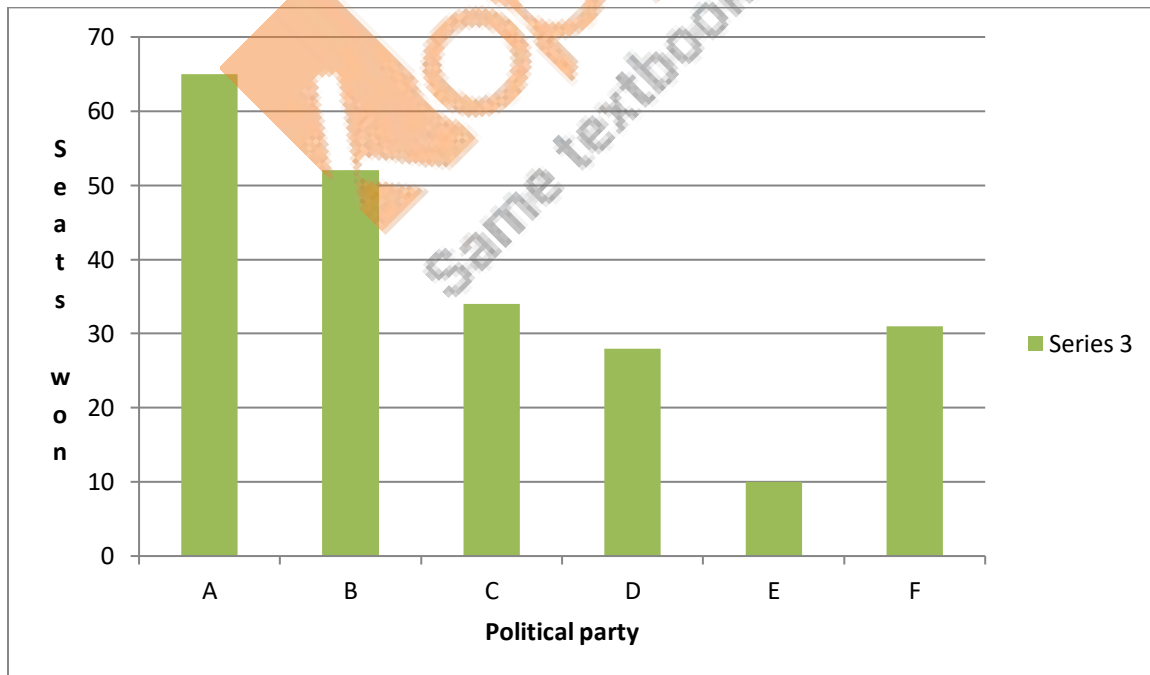
**Answer 8:**



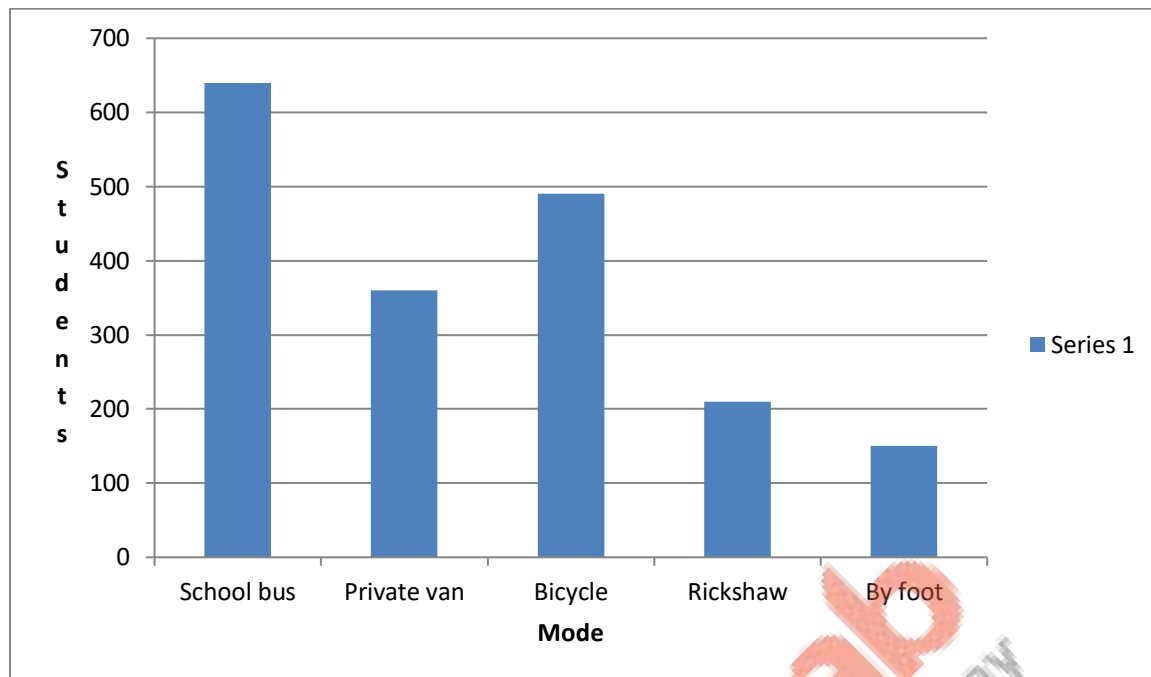
**Answer 9:**



Answer10



Answer 11:



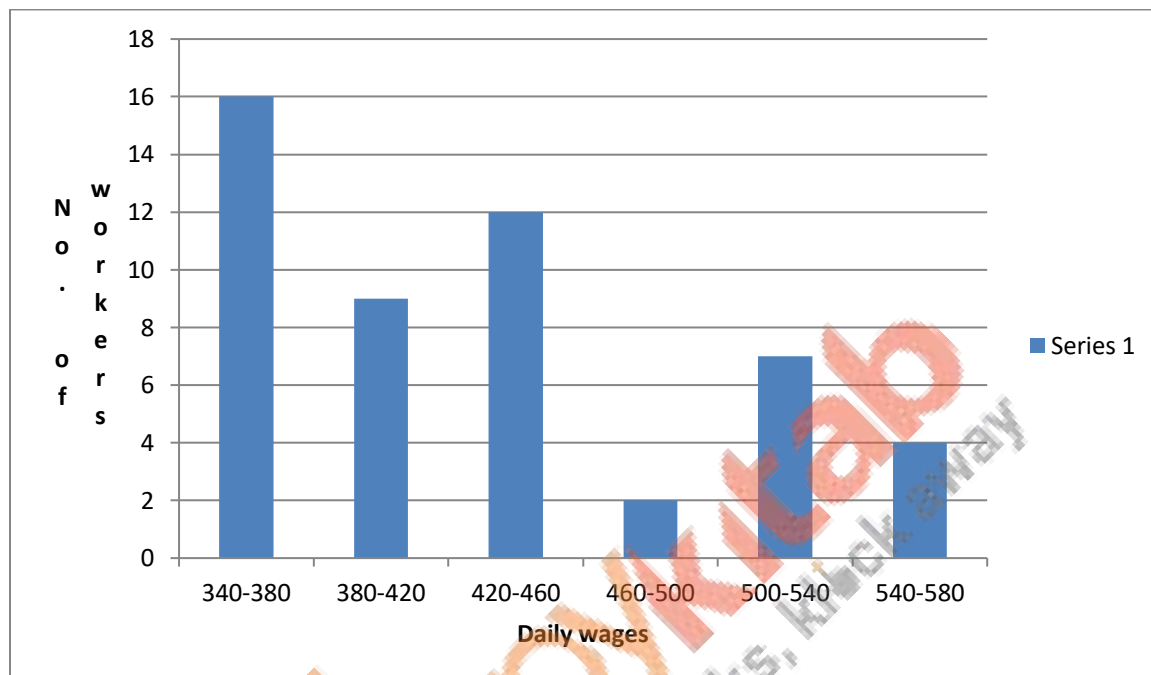
**Answer 12:**

- (i) The bar graph shows the marks obtained by a student in various subjects in an examination.
- (ii) The student scores very good in mathematics, as the height of the corresponding bar is the highest.
- (iii) The student scores bad in Hindi, as the height of the corresponding bar is the lowest.
- (iv) Average marks =  $(60 + 35 + 75 + 50 + 60) \div 5 = 56$

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## EXERCISE 17B

**Answer 1:**

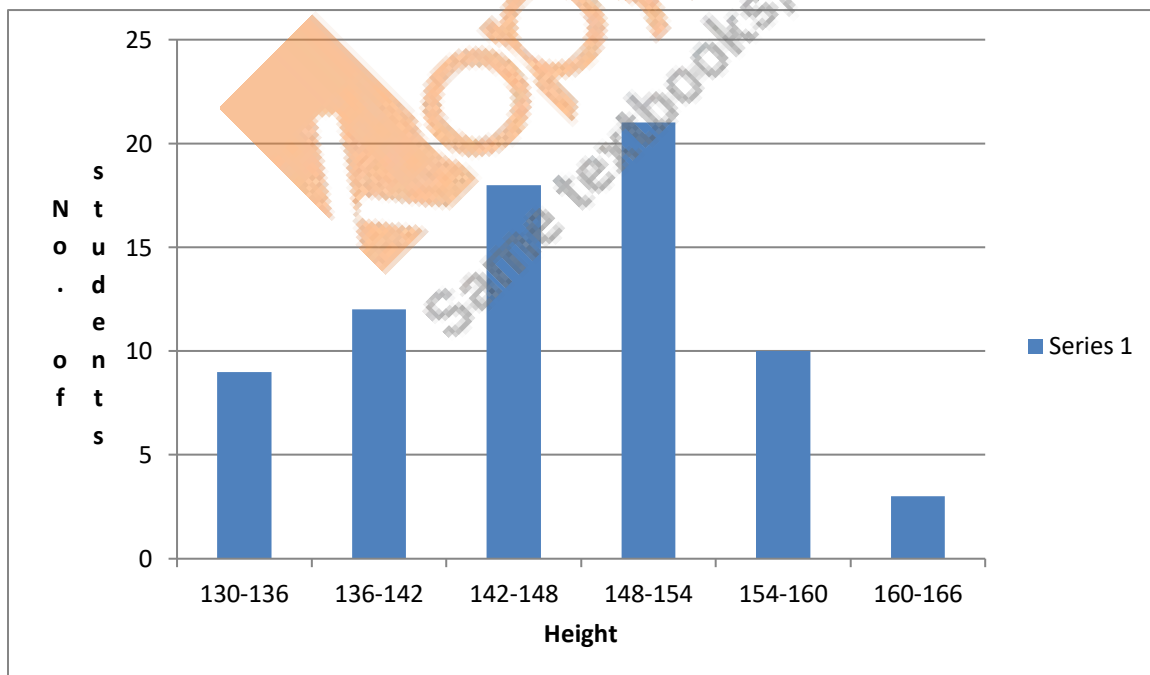


**Answer 2:**

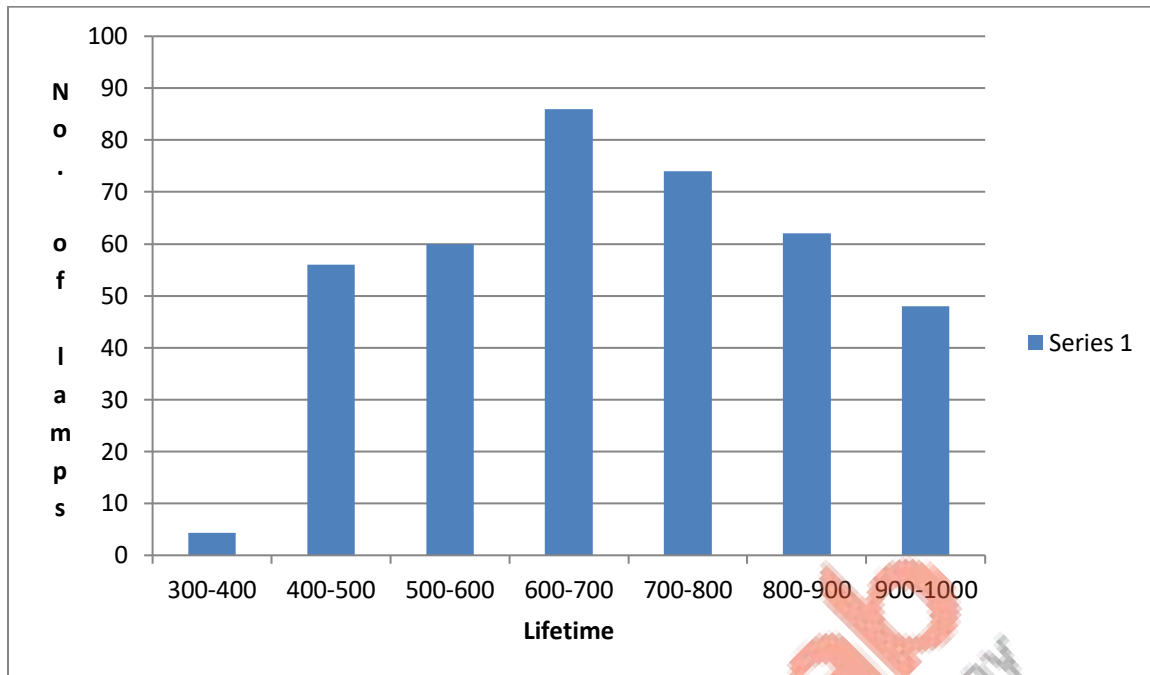




Answer 3:

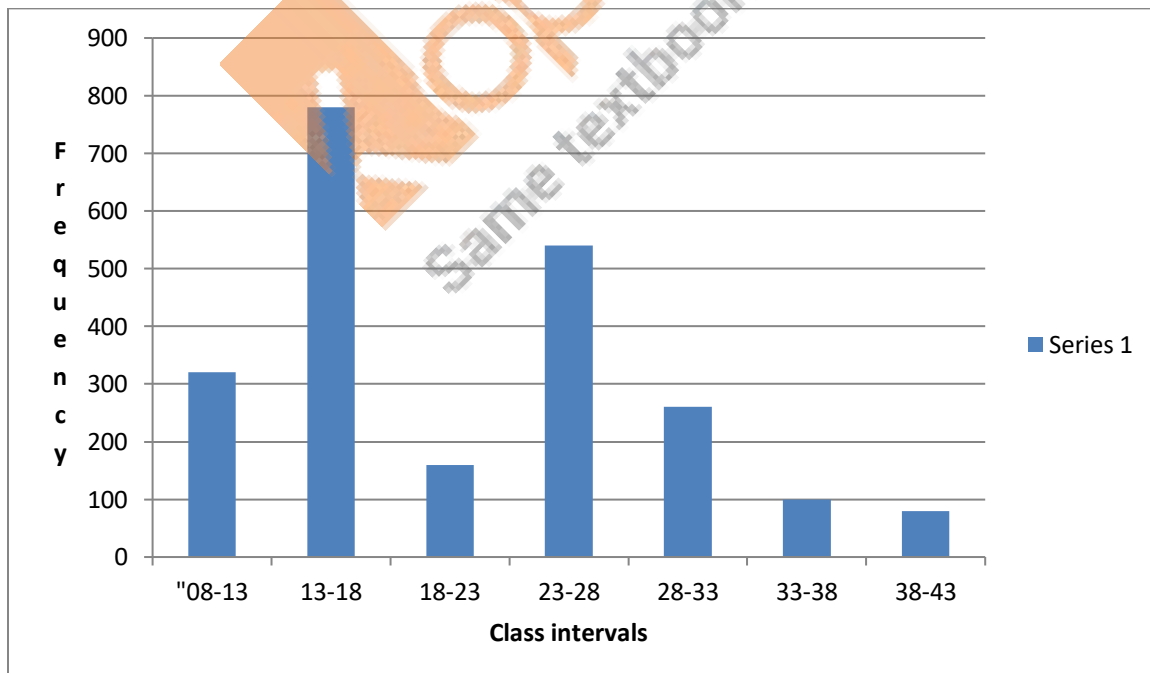


Answer 4:(i)



(ii) Lamps with lifetime more than 700 hours =  $74 + 62 + 48 = 184$

**Answer 5:**

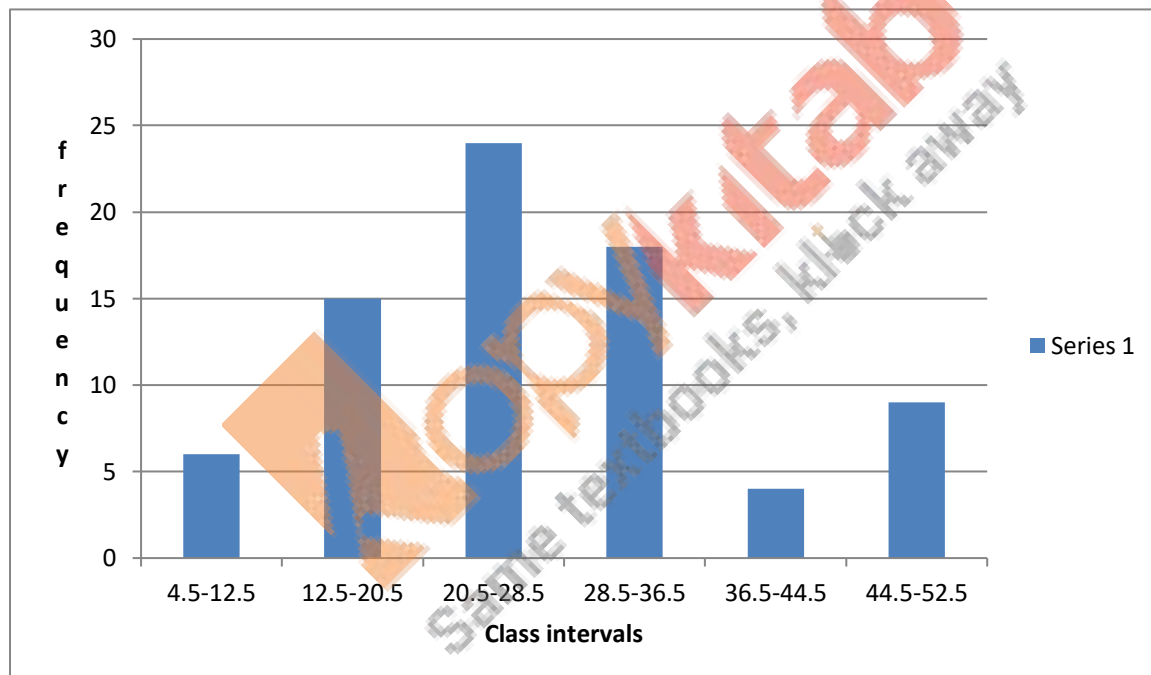


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**Answer 6:**

The given frequency distribution is in inclusive form.  
So, we will convert it into exclusive form, as shown below:

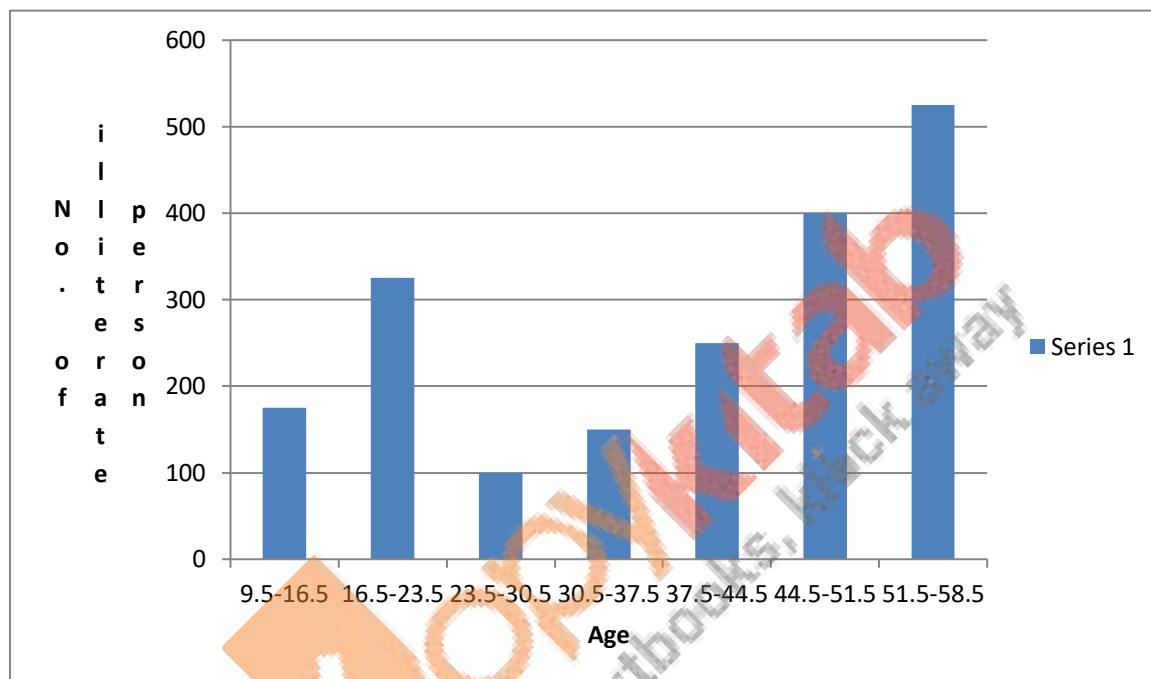
| Class Interval | Frequency |
|----------------|-----------|
| 4.5–12.5       | 6         |
| 12.5–20.5      | 15        |
| 20.5–28.5      | 24        |
| 28.5–36.5      | 18        |
| 36.5–44.5      | 4         |
| 44.5–52.5      | 9         |

**Answer 7:**

The given frequency distribution is inclusive form.  
So, we will convert it into exclusive form, as shown below:

| Age (in years) | Number of Illiterate Persons |
|----------------|------------------------------|
|----------------|------------------------------|

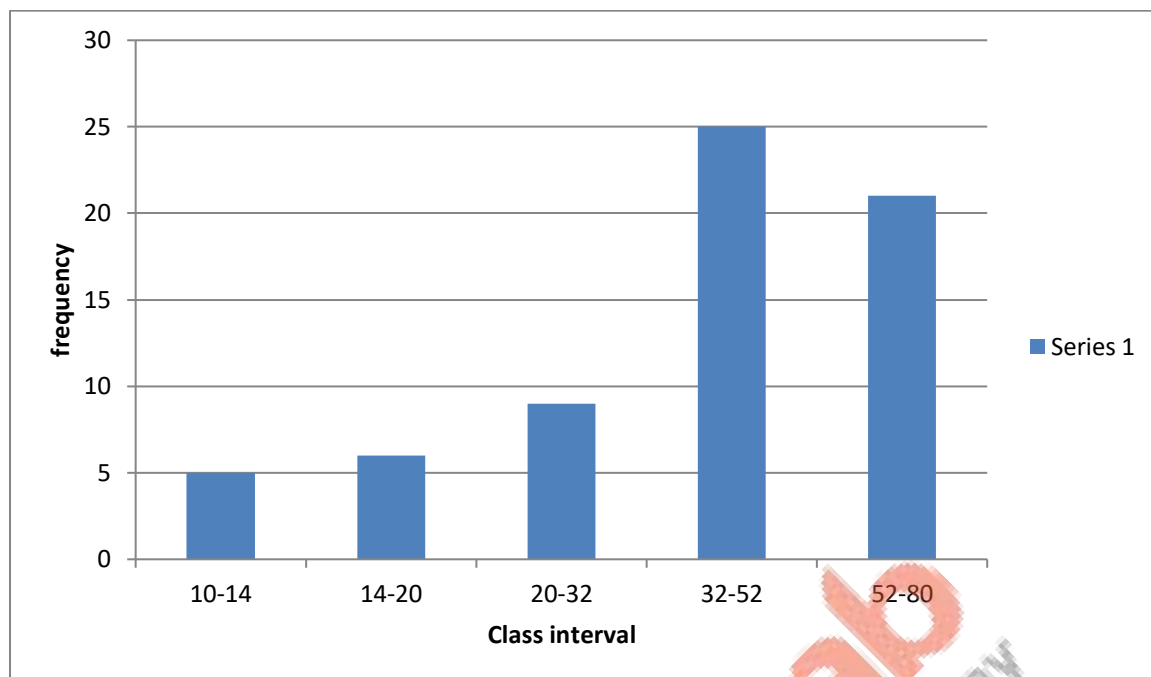
|           |     |
|-----------|-----|
| 9.5-16.5  | 175 |
| 16.5-23.5 | 325 |
| 23.5-30.5 | 100 |
| 30.5-37.5 | 150 |
| 37.5-44.5 | 250 |
| 44.5-51.5 | 400 |
| 51.5-58.5 | 525 |



**Answer 8:\***

In the given frequency distribution, class sizes are different. So, we calculate the adjusted frequency for each class.

| Class Interval | Frequency |
|----------------|-----------|
| 10-14          | 5         |
| 14-20          | 6         |
| 20-32          | 9         |
| 32-52          | 25        |
| 52-80          | 21        |



**Answer 9:**

Here the class intervals are of unequal size. So, we calculate the adjusted frequency .

Class sizes are

$$4 - 1 = 3$$

$$6 - 4 = 2$$

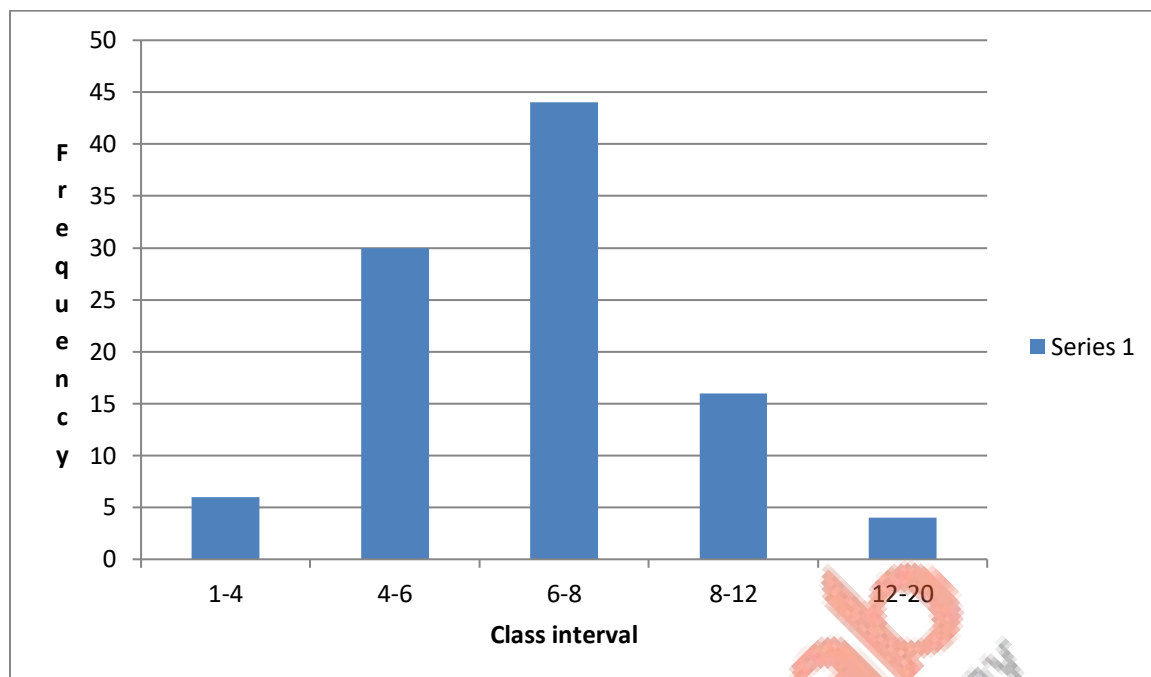
$$8 - 6 = 2$$

$$12 - 8 = 4$$

$$20 - 12 = 8$$

Minimum class size = 2

| Class Interval | Frequency |
|----------------|-----------|
| 1-4            | 6         |
| 4-6            | 30        |
| 6-8            | 44        |
| 8-12           | 16        |
| 12-20          | 4         |



(ii) Maximum number of surnames lie in the interval 6-8.

**Answer 10:**

Here the class intervals are of unequal size. So, we calculate the adjusted frequency .

Class sizes are

$$10 - 5 = 5$$

$$15 - 10 = 5$$

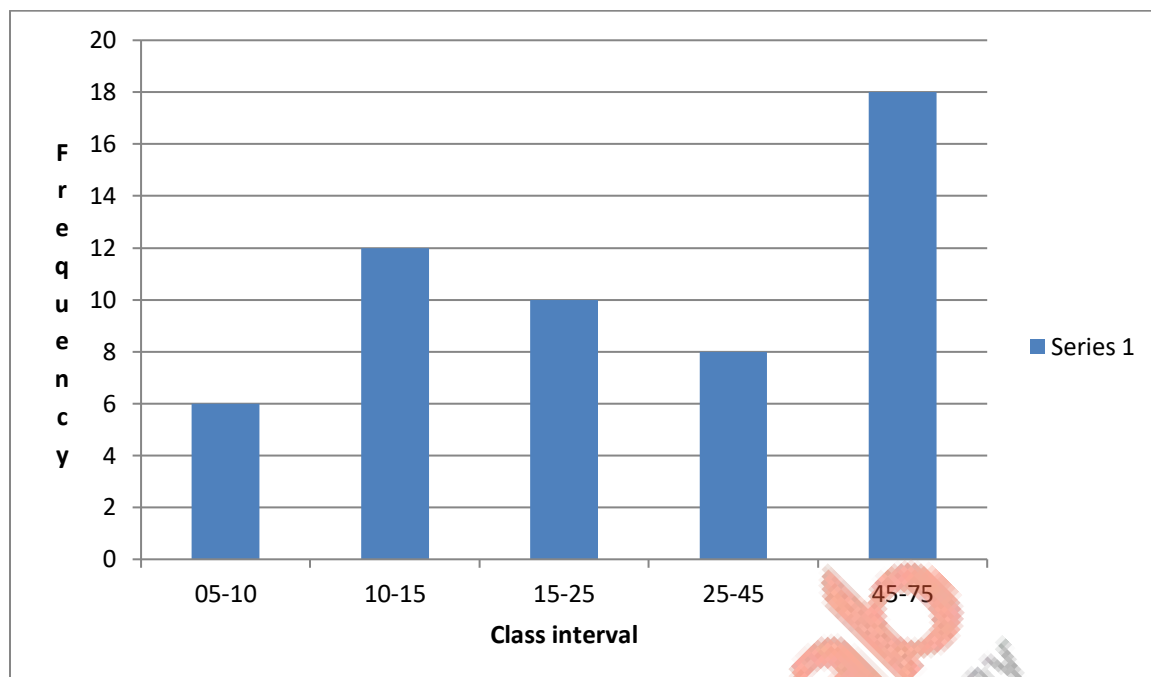
$$25 - 15 = 10$$

$$45 - 25 = 20$$

$$75 - 45 = 30$$

Minimum class size = 5

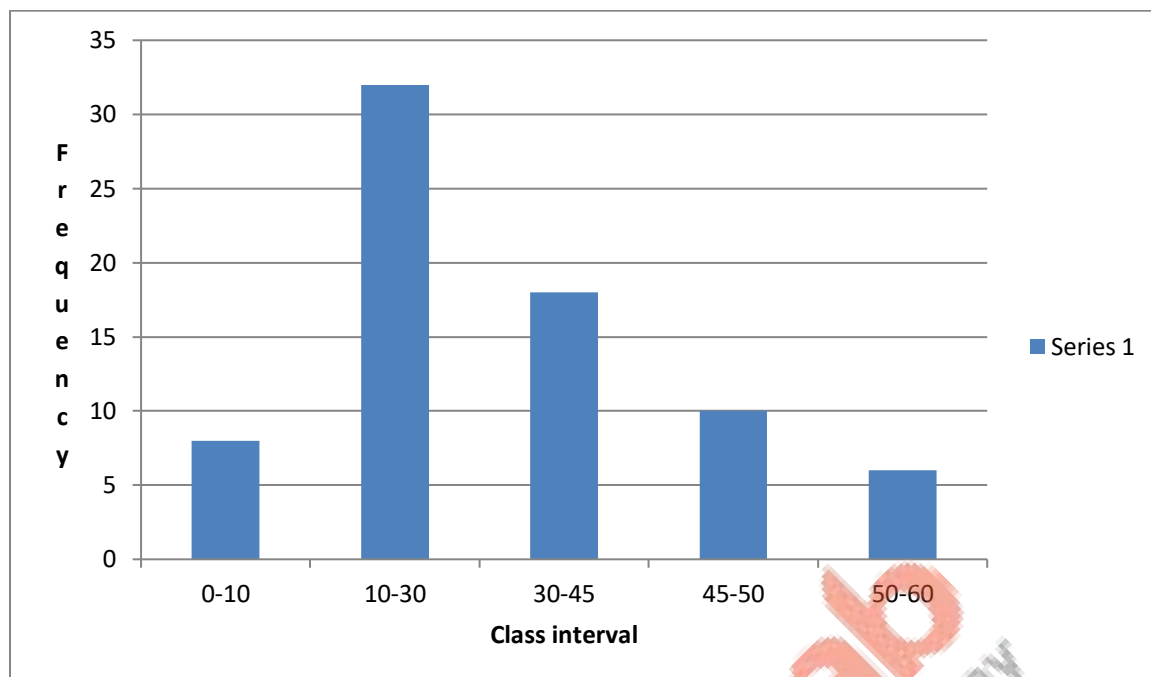
| Class Interval | Frequency |
|----------------|-----------|
| 5-10           | 6         |
| 10-15          | 12        |
| 15-25          | 10        |
| 25-45          | 8         |
| 45-75          | 18        |



**Answer 11:**

Minimum class size = 5

| Class Interval | Frequency |
|----------------|-----------|
| 0-10           | 8         |
| 10-30          | 32        |
| 30-45          | 18        |
| 45-50          | 10        |
| 50-60          | 6         |



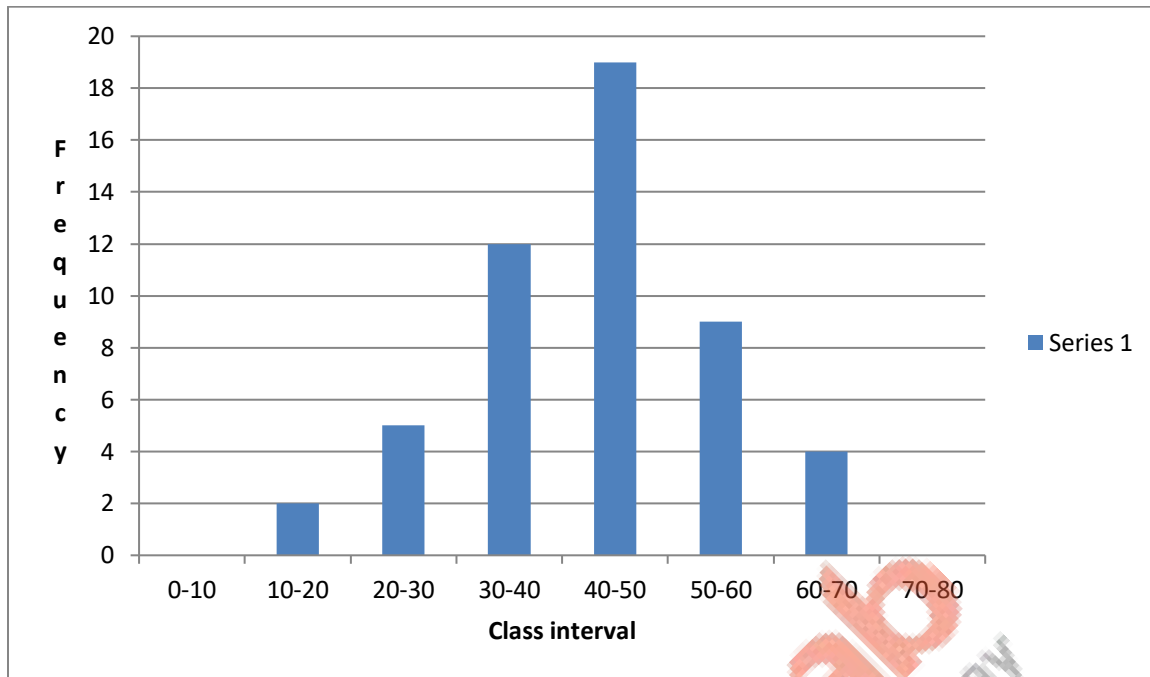
**Answer 12:**

We take two imagined classes—one at the beginning (0–10) and other at the end (70–80)—each with frequency zero.

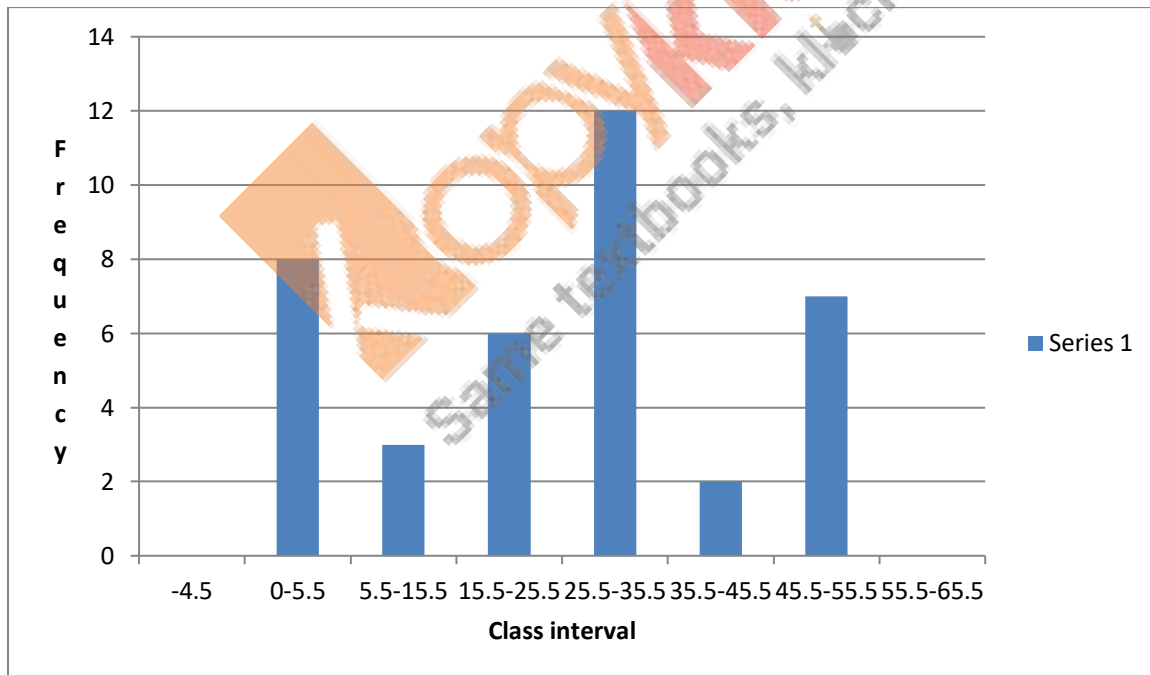
With these two classes, we have the following frequency table:

| Age in Years | Class Mark | Frequency<br>(Number of Patients) |
|--------------|------------|-----------------------------------|
| 0–10         | 5          | 0                                 |
| 10–20        | 15         | 2                                 |
| 20–30        | 25         | 5                                 |
| 30–40        | 35         | 12                                |
| 40–50        | 45         | 19                                |
| 50–60        | 55         | 9                                 |
| 60–70        | 65         | 4                                 |
| 70–80        | 75         | 0                                 |



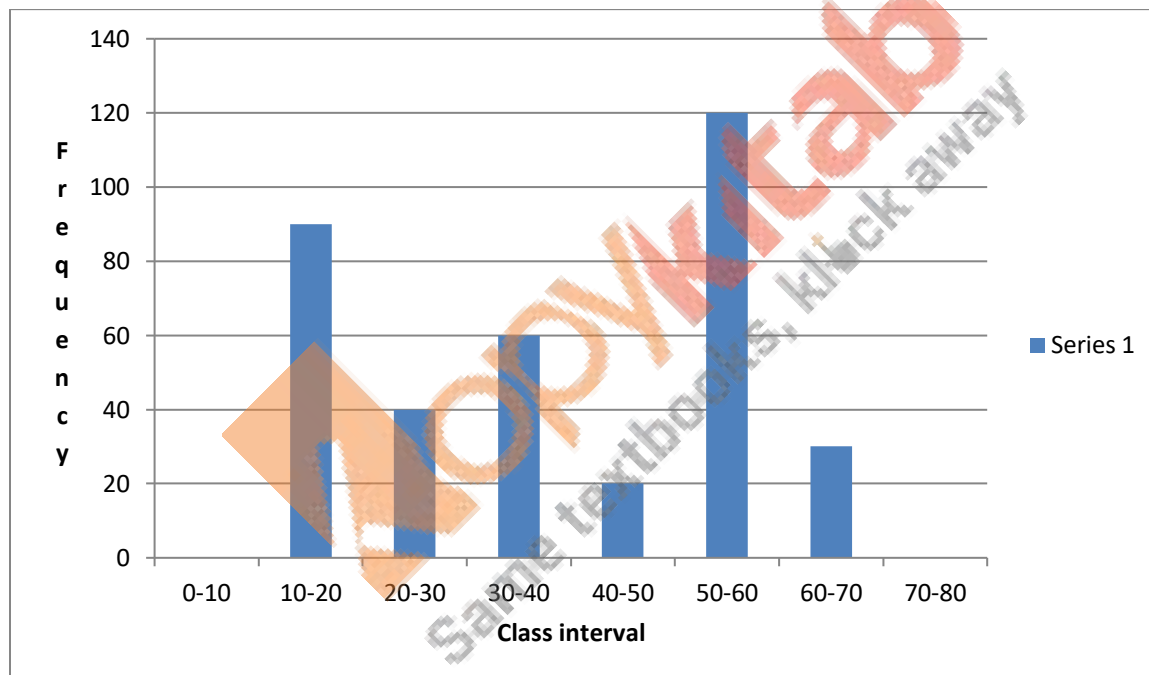


**Answer 13:**

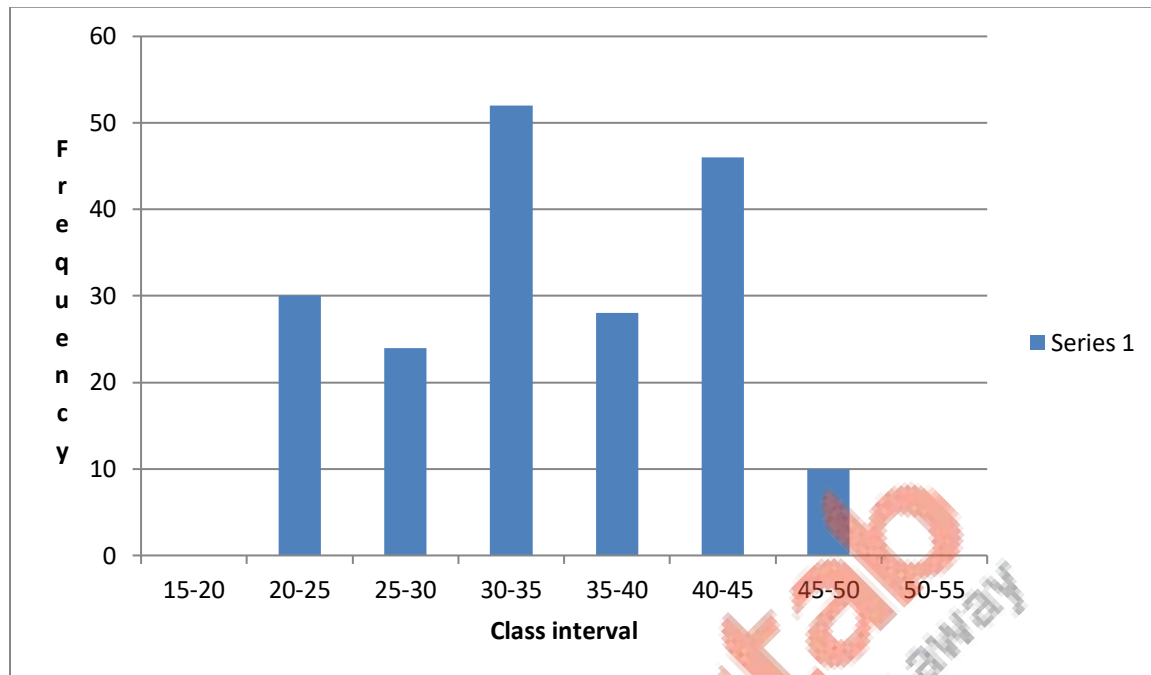


| Class Interval | Class Mark | Frequency |
|----------------|------------|-----------|
| –              |            |           |
| 9–0            | –4.5       | 0         |
| 1–10           | 5.5        | 8         |
| 11–20          | 15.5       | 3         |
| 21–30          | 25.5       | 6         |
| 31–40          | 35.5       | 12        |
| 41–50          | 45.5       | 2         |
| 51–60          | 55.5       | 7         |
| 61–70          | 65.5       | 0         |

**Answer 14:**



**Answer 15:**



**Answer 16:**

