Data Handling: Exercise 5.1

Q.1 For which of these would you use a histogram to show the data?
(a) The number of letters for different areas in a postman's bag.
(b) The height of competitors in an athletics meet.
(c) The number of cassettes produced by 5 companies.
(d) The number of passengers boarding trains from 7:00 a.m. to 7:00 p.m. at a station.
Give reasons for each.
Sol. As we know that histogram is the graphically representation of the data, when data represented using class interval.

(a) Since in this situation, the number of letters of different areas is not defined. So, we cannot make class intervals for this data.

(b) Since, in this situation, we can use a histogram to represent the data graphically because we can divide the given data in to class intervals.

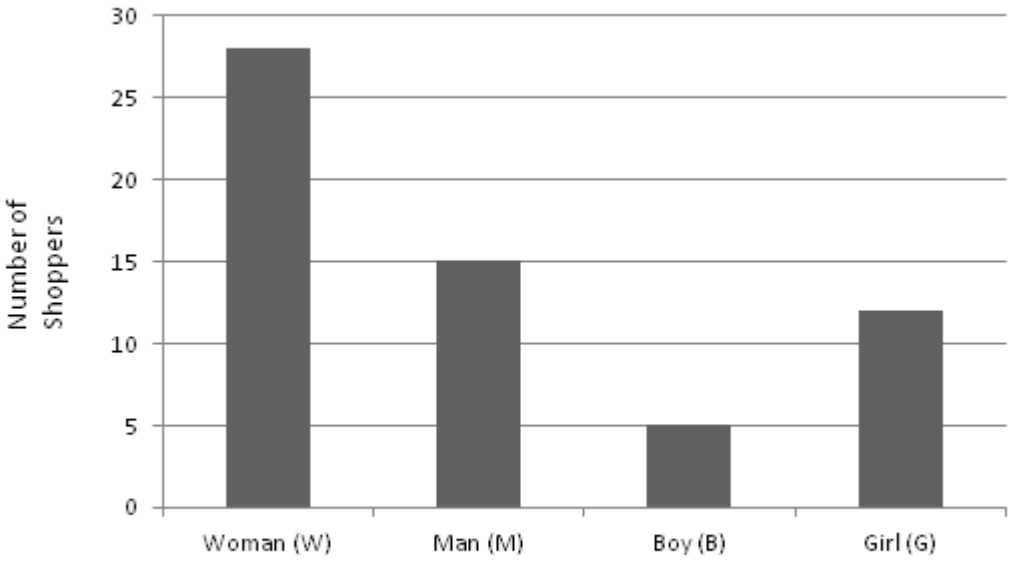
(c) Since, in this situation, we cannot use a histogram to represent the data graphically because the number of cassettes produced by 5 companies is not defined.

(d) Since, in this situation, we can use a histogram to represent the given data graphically because we can divide the given data in to class intervals.

Q.2 The shoppers who come to a departmental store are marked as: man (M), woman (W), boy (B) or girl (G). The following list gives the shoppers who came during the first hour in the morning:
W W W G B W W M G G M M W W W W G B M W B G G M W W M M W W W M W B W G M W W W W G W M M W W M W G W M G W M M B G G W
Make a frequency distribution table using tally marks. Draw a bar graph to illustrate it.
Sol. The frequency distribution table for the given data:

Shopper	Tally marks	Frequency
Woman (W)	𝍸 𝍸 𝍸 𝍸 𝍸 | | |	28
Man (M)	𝍸 𝍸 𝍸	15
Boy (B)	𝍸	5
Girl (G)	𝍸 𝍸 | |	12

And the bar graph for the given data is:



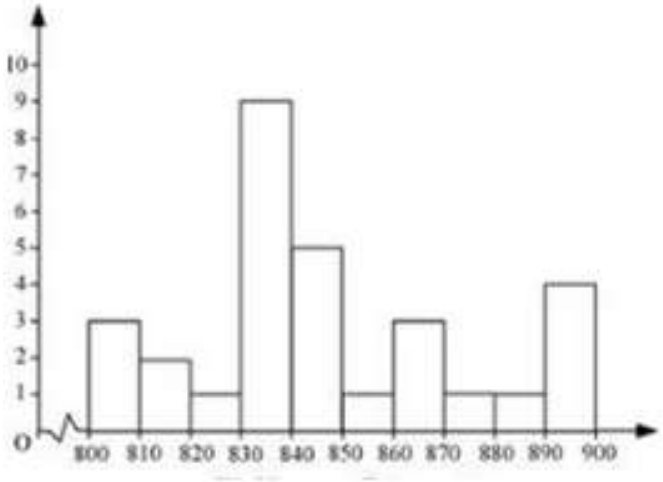
Thus, above graph is the required bar graph representation of data.

Q.3 The weekly wages (in Rs) of 30 workers in a factory are.
830, 835, 890, 810, 835, 836, 869, 845, 898, 890, 820, 860, 832, 833, 855, 845, 804, 808, 812, 840, 885, 835, 835, 836, 878, 840, 868, 890, 806, 840
Using tally marks make a frequency table with intervals as 800–810, 810–820 and so on.
Sol. Since, from the given data the minimum weekly wage is 804 rs. and maximum wage is 898.
Thus, the frequency distribution table for the given data:

Class Interval	Tally marks	Frequency
800 – 810	𝍸	3
810 – 820	𝍸	2
820 – 830	𝍸	1
830 – 840	𝍸 𝍸	9
840 – 850	𝍸	5
850 – 860	𝍸	1
860 – 870	𝍸	3
870 – 880	𝍸	1
880 – 890	𝍸	1

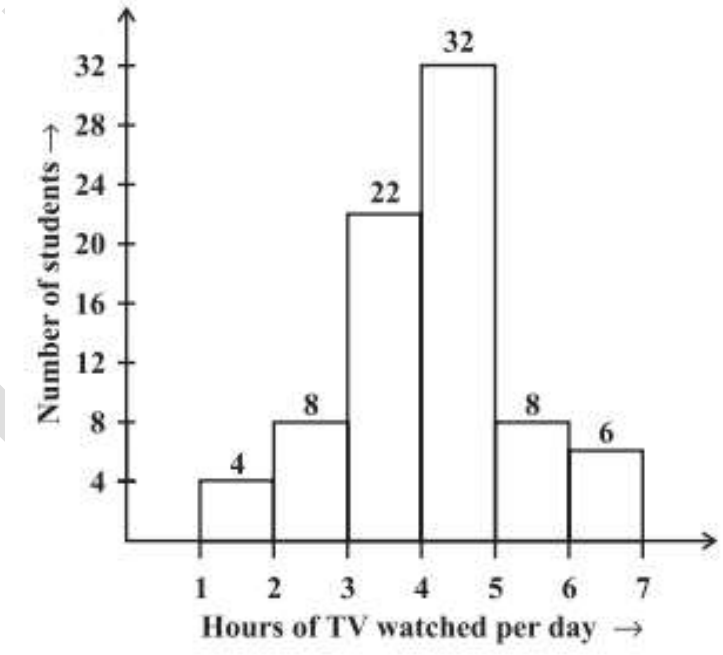
Thus, above table is the required frequency distribution table.

Q.4 Draw a histogram for the frequency table made for the data in Question 3, and answer the following questions.
(i) Which group has the maximum number of workers?
(ii) How many workers earn Rs 850 and more?
(iii) How many workers earn less than Rs 850?
Sol. A histogram for the given data in question 3, X –axis represent class intervals and Y-axis represent frequency.



(i) It is clear from the graph, group 830 – 840 has the maximum number of workers.
(ii) It is clear from the graph, there are 10 workers who earn more than Rs 850.
(iii) It is clear from the graph, there are 20 workers who earn less than Rs 850.

Q.5 The number of hours for which students of a particular class watched television during holidays is shown through the given graph. Answer the following.
(i) For how many hours did the maximum number of students watch TV?
(ii) How many students watched TV for less than 4 hours?
(iii) How many students spent more than 5 hours in watching TV?



Sol. (i) It is cleared from the graph, for 4 – 5 hours the maximum number of students 32 watched TV.

(ii) From the graph,

Total number of students who watched TV for less than 4 hours = 4 students watched TV for 1-2 hours + 8 students watched TV for 2-3 hours + 22 students watched TV for 3-4 hours.
Thus, total number of students who watched TV for less than 4 hours = 4 + 8 + 22 = 34.

(iii) From the graph,
Total number of students who watched TV for more than 5 hours = 8 students watched TV for 5-6 hours + 6 students watched TV for 6-7 hours.
Thus, Total number of students who watched TV for more than 5 hours = 8 + 6 = 14.