**Assignment-1**

**1.** Define a histogram and explain how it differs from a bar graph.

**2.** The following data shows the number of books read by students in a month:

| **Number of Books** | **0–2** | **3–5** | **6–8** | **9–11** | **12–14** |
| --- | --- | --- | --- | --- | --- |
| Number of Students | 5 | 8 | 12 | 7 | 3 |
| Draw a histogram to represent this data. |  |  |  |  |  |

**3.** Which type of data is best represented by a bar graph?

**4.** The following frequency distribution represents the scores obtained by students in a test:

| **Score Range** | **0–10** | **11–20** | **21–30** | **31–40** | **41–50** |
| --- | --- | --- | --- | --- | --- |
| Number of Students | 4 | 6 | 10 | 5 | 3 |
| Draw a histogram based on the above data and identify the class interval with the highest frequency. |  |  |  |  |  |

**5.** Explain why there are no gaps between bars in a histogram, but there are gaps in a bar graph.

**6.** Given the following bar graph of favorite fruits among children:

* Apples: 10
* Bananas: 15
* Grapes: 7
* Oranges: 12  
  Draw the bar graph and calculate the total number of children surveyed.

**7.** Describe one similarity and one difference between histograms and bar graphs.

**8.** The heights of 30 students are grouped as follows:

| **Height (cm)** | **140–149** | **150–159** | **160–169** | **170–179** |
| --- | --- | --- | --- | --- |
| Number of Students | 6 | 10 | 8 | 6 |
| Construct a histogram for the above data. |  |  |  |  |

**9.** How can you determine the class width from a given frequency distribution?

**10.** A bar graph shows the number of cars sold by a company in five months as:  
January: 20  
February: 25  
March: 15  
April: 30  
May: 10  
Which month had the highest car sales? Represent this data in a bar graph.