

# ***Homework 1***

Exercise (1): The following data represent the number of plants of the sedge *Corex flacca* found in 50 quadrates .

1,1,0,0,2,0,0,2,1,1,3,4,3,3,4,5,0,1,0,1,1,1,0,0,0,2,0,0,0,1,0,0,1,4,5,3,3,2,2,1,1,2,0,0,0,0,4,3,3,2.

Construct frequency, relative and percentage distributions .

Construct Pie-chart, Bar chart for the above data.

2.3.2 Janardhan et al. (A-2) conducted a study in which they measured incidental intracranial aneurysms (IIAs) in 125 patients. The researchers examined postprocedural complications and concluded that IIAs can be safely treated without causing mortality and with a lower complications rate than previously reported. The following are the sizes (in millimeters) of the 159 IIAs in the sample.

8.1	10.0	5.0	7.0	10.0	3.0
20.0	4.0	4.0	6.0	6.0	7.0

10.0	4.0	3.0	5.0	6.0	6.0
6.0	6.0	6.0	5.0	4.0	5.0
6.0	25.0	10.0	14.0	6.0	6.0
4.0	15.0	5.0	5.0	8.0	19.0
21.0	8.3	7.0	8.0	5.0	8.0
5.0	7.5	7.0	10.0	15.0	8.0
10.0	3.0	15.0	6.0	10.0	8.0
7.0	5.0	10.0	3.0	7.0	3.3
15.0	5.0	5.0	3.0	7.0	8.0
3.0	6.0	6.0	10.0	15.0	6.0
3.0	3.0	7.0	5.0	4.0	9.2
16.0	7.0	8.0	5.0	10.0	10.0
9.0	5.0	5.0	4.0	8.0	4.0
3.0	4.0	5.0	8.0	30.0	14.0
15.0	2.0	8.0	7.0	12.0	4.0
3.8	10.0	25.0	8.0	9.0	14.0
30.0	2.0	10.0	5.0	5.0	10.0
22.0	5.0	5.0	3.0	4.0	8.0
7.5	5.0	8.0	3.0	5.0	7.0
8.0	5.0	9.0	11.0	2.0	10.0
6.0	5.0	5.0	12.0	9.0	8.0
15.0	18.0	10.0	9.0	5.0	6.0
6.0	8.0	12.0	10.0	5.0	
5.0	16.0	8.0	5.0	8.0	
4.0	16.0	3.0	7.0	13.0	

Source: Vallabh Janardhan, M.D. Used with permission.

(a) Use these data to prepare:

- A frequency distribution
- A relative frequency distribution
- A cumulative frequency distribution
- A cumulative relative frequency distribution
- A histogram
- A frequency polygon

(b) What percentage of the measurements are between 10 and 14.9 inclusive?

(c) How many observations are less than 20?

(d) What proportion of the measurements are greater than or equal to 25?

(e) What percentage of the measurements are either less than 10.0 or greater than 19.95?

(f) Refer to Exercise 2.3.1, part h. Describe the distribution of the size of the aneurysms in this sample.

2.3.3 Hoekema et al. (A-3) studied the craniofacial morphology of patients diagnosed with obstructive sleep apnea syndrome (OSAS) in healthy male subjects. One of the demographic variables the researchers collected for all subjects was the Body Mass Index (calculated by dividing weight in kg by the square of the patient's height in cm). The following are the BMI values of 29 OSAS subjects.

33.57	27.78	40.81
38.34	29.01	47.78
26.86	54.33	28.99

(Continued)