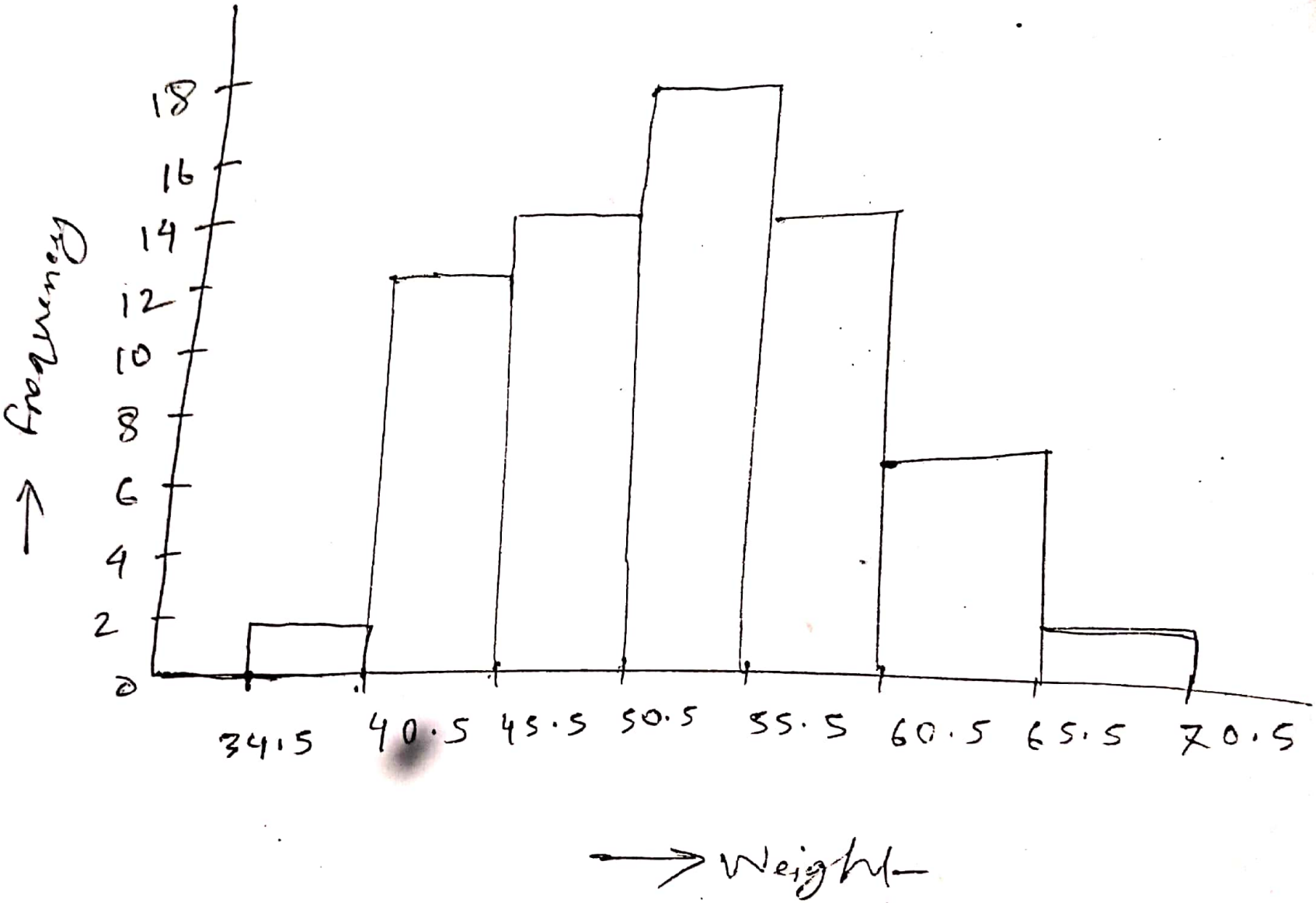
Histogram

The most common form of graphical presentation of a frequency distribution is the histogram. A histogram is constructed by placing the class boundaries on the horizontal axis of a graph and the frequencies on the vertical axis. Each class is shown on the graph by drawing a rectangle whose base is the class boundary and whose height is the corresponding frequency for the class.

Example: Frequency distribution table of weights of first year honours students in statistics (2014-15) for the construction of histogram

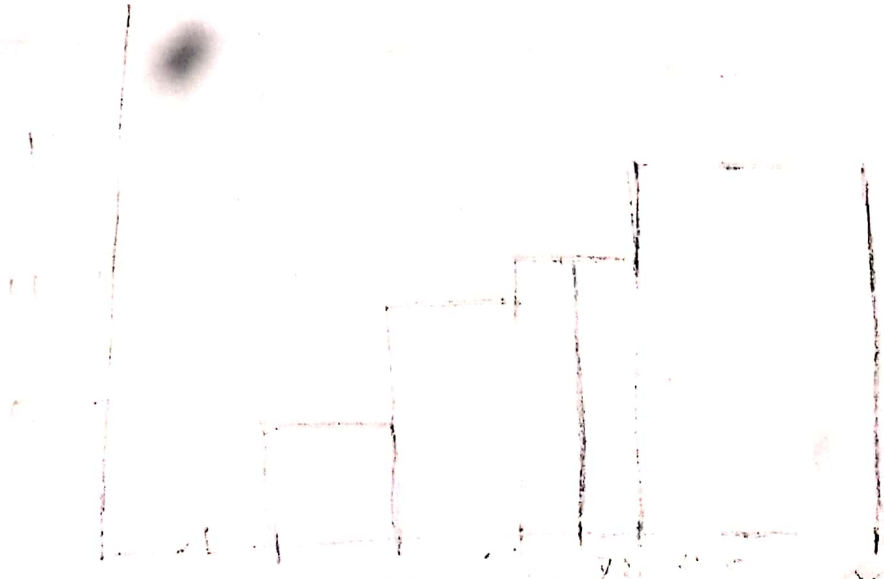
Class interval	Class boundary	Frequency
35 - 40	34.5 - 40.5	2
41 - 45	40.5 - 45.5	12
46 - 50	45.5 - 50.5	14
51 - 55	50.5 - 55.5	17
56 - 60	55.5 - 60.5	14
61 - 65	60.5 - 65.5	6
66 - 70	65.5 - 70.5	2



To construct a histogram for a frequency distribution with unequal class widths.

Table: Data for constructing histogram with unequal class widths

Class interval	Class boundary	Class frequency	Class Width	Height of rectangles	Col. 4 × 10
48 – 58	48.5 – 58.5	4	10	$\frac{4}{10} = 0.4$	4
59 – 68	58.5 – 68.5	8	10	$\frac{8}{10} = 0.8$	8
69 – 73	68.5 – 73.5	5	5	$\frac{5}{5} = 1$	10
74 – 78	73.5 – 78.5	5	5	1	10
79 – 98	78.5 – 98.5	28	20	$\frac{28}{20} = 1.4$	14



Stem and leaf plot :

Stem and leaf plot is a graphical technique of representing quantitative data that can be used to examine the shape of a frequency distribution, the range of the values, and point of concentration of the values and whether there are any extreme values in the data compared to other graphical techniques presented thus far, stem and leaf plot is an easy and quick way of displaying data.

Example: The following data represent the marks obtained by 20 students in a statistics test.

84	17	38	45	47	53	76	54	75	22
66	65	55	59	51	33	39	19	54	72

Stem	Leaf
1	7 9
2	2
3	8 3 9
4	5 7
5	3 4 5 4 1 4
6	6 5
7	6 5 2
8	4

We. then arrange the leaves in ascending order in order to make the plot a bit greater and give an explanatory message on a key. The final figure is —

Stem	Leaf
1	7 9
2	2
3	3 8 9
4	5 7
5	1 3 4 4 4 5
6	5 6
7	2 5 6
8	4

key : 1|7 represents 17