

Stem-and-leaf plots

Worked Example

- (a) Using an interval of size 5, draw a stem plot for the following data: 26.3, 19.4, 37.3, 29.1, 19.8, 16.4, 38.2, 21.3, 33.2, 11.8, 28.6, 21.5, 37.4, 29.9, 14.3, 18.9, 24.6, 33.3, 39.3, 15.6.
 (b) Use the stem plot to find the median.

Thinking

- (a) 1 Round off the data.
- 2 List the stems (1L, 1U, 2L, 2U, 3L, 3U) down the page and put the leaf of each individual result in the appropriate row. The first digit is the stem and the units digit the leaf.
- 3 Arrange the leaves in numerical order to obtain an ordered stem-and-leaf plot.

Working

- (a) 26, 19, 37, 29, 20, 16, 38, 21, 33, 12, 29, 22, 37, 30, 14, 19, 25, 33, 39, 16

STEM	LEAF
1 _L	2, 4
1 _U	9, 6, 9, 6
2 _L	0, 1, 2
2 _U	6, 9, 9, 5
3 _L	3, 0, 3
3 _U	7, 8, 7, 9

STEM	LEAF
1 _L	2, 4
1 _U	6, 6, 9, 9
2 _L	0, 1, 2
2 _U	5, 6, 9, 9
3 _L	0, 3, 3
3 _U	7, 7, 8, 9

- (b) Find the middle value.

- (b) The median is 25.5

Exercise

- 1 (a) Draw (i) stem plots (using an interval of size 5) and (ii) ordered stem plots for each of the following sets of data. Use it to find the median.

- (a) 27, 16, 19, 21, 34, 35, 36, 37, 13, 10, 11, 15, 17, 22, 25, 27, 24, 29, 31, 19

- (b) 8.7, 19.3, 21.4, 18.9, 3.1, 28.5, 13.3, 16.1, 19.4, 22.8, 23.5, 28.2

Rounded off data:

Rounded off data:

(i)

STEM	LEAF
1 _L
1 _U
2 _L
2 _U
3 _L
3 _U

(ii)

STEM	LEAF
1 _L
1 _U
2 _L
2 _U
3 _L
3 _U

(i)

STEM	LEAF
0 _L
0 _U
1 _L
1 _U
2 _L
2 _U

(ii)

STEM	LEAF
0 _L
0 _U
1 _L
1 _U
2 _L
2 _U

(i)

STEM	LEAF
0 _L
0 _U
1 _L
1 _U
2 _L
2 _U

(ii)

2 Draw ordered stem plots (using an interval of size 10) for each of the following sets of data. Then use it to find the median.

(a) 8, 11, 15, 23, 38, 42, 50, 47, 53, 39, 14, 12, 27, 6, 23, 4, 17, 9, 20, 30

(b) 46.3, 87.2, 98.1, 67.3, 80, 69.3, 81.8, 59.9, 71.4, 68.3, 82.5, 94.1, 54.6, 75.8, 92.7

Rounded off data:

Rounded off data:

STEM	LEAF
0
1
2
3
4
5

STEM	LEAF
4
5
6
7
8
9

Median =

3 Draw ordered stem-and-leaf plots (using an interval of size 5) for each of the following sets of data. Then use it to find the median.

(a) 2.35, 7.82, 6.91, 18.6, 23.5, 4.31, 17.2, 10.91, 17.7, 25.6, 24.3, 29.2, 16.23, 11.45, 7.35, 0.34, 19.4, 25.7

(b) 27, 36, 51, 29, 23, 38, 41, 48, 52, 37, 34, 26, 21, 30, 40, 49, 50, 52

STEM	LEAF
0 _L
0 _U
.....
.....
.....
.....

STEM	LEAF
2 _L
2 _U
.....
.....
.....
.....

Median =

4 Draw ordered stem-and-leaf plots (using an interval of size 10) for each of the following sets of data. Then use it to find the median.

- (a) 127, 138, 125, 131, 149, 162, 117, 156,
143, 139, 135, 148, 165, 113, 140, 150,
152, 121

STEM	LEAF
11
12
13
14
15
16

Median =

- (b) 227, 238, 223, 231, 256, 243, 239, 235,
249, 262, 217, 248, 265, 213, 240, 252,
250, 221

STEM	LEAF
21
22
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