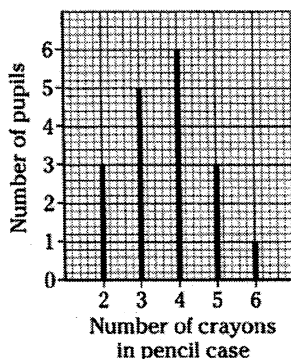## Exercise 1.1 – <u>Stemplot /Stem and Leaf Diagram</u>

1 The children in a class were asked how many crayons they had in their pencil case. The vertical line diagram shows the results.

Number of crayons
in pencil case

(i) How many children were there in the class?

(ii) If all the crayons were put into a big pot, how many crayons would there be?

2 The weights, correct to the nearest kg, of 30 men are shown below.

74	52	67	68	71	76	86	81	73	68
64	75	71	61	63	57	67	57	59	72
79	64	70	74	77	79	65	68	76	83

(i) Draw a stem-and-leaf diagram to show the data.

(ii) Write down the mode.

3 In a lesson on measurement, 30 pupils estimated the length of a line, writing their guess in cm, to the nearest mm, with the following results.

9.2	7.3	7.0	6.5	5.4	5.3	10.1	8.4	8.8
7.1	7.5	7.9	6.7	9.6	5.5	7.4	7.0	8.2
5.5	7.8	8.2	7.6	6.1	6.1	3.9	6.8	7.6
8.1	8.0	10.0						

(i) Draw a stem-and-leaf diagram to show the data.

7 These are the ages of teachers in two schools.

School A: 51, 45, 33, 37, 37, 27, 28, 54, 54, 61, 34, 31, 39, 23, 53, 59, 40, 46, 48, 48, 39, 33, 25, 31, 48, 40, 53, 51, 46, 45, 45, 48, 39, 29, 23, 37.

(ii) The line was 7.5 cm long. What percentage of pupils overestimated the length?

4 The daily hours of sunshine in a particular city during August were as shown.

7.0	7.6	12.5	12.9	8.3	9.7	8.4	11.1
7.5	7.5	9.8	10.4	11.6	11.3	7.3	7.8
6.8	6.2	6.1	5.6	5.6	5.8	4.8	4.3
0.0	0.6	0.8	1.6	0.2	2.4	2.6	

Illustrate these data on a stem-and-leaf diagram.

5 Cartons are advertised as containing 2 litres of milk. In a quality control test, the volume of milk in 20 randomly selected cartons was measured in litres, to the nearest millilitre, and gave the following results.

2.017, 2.015, 2.019, 1.982, 2.003, 1.986, 2.024, 2.017, 2.001, 2.004, 1.988, 2.033, 1.990, 2.018, 2.011, 2.023, 2.019, 2.022, 2.008, 1.985

(i) Draw a stem-and-leaf diagram to show the data.

(ii) What percentage of cartons contained less than the advertised volume of milk?

6 These are the pulse rates of 30 company directors measured before and after taking exercise.

Before exercise: 110, 93, 81, 75, 73, 73, 48, 53, 69, 69, 66, 111, 105, 93, 90, 50, 57, 64, 90, 111, 91, 70, 70, 51, 79, 93, 105, 51, 66, 93.

After exercise: 117, 81, 77, 108, 130, 69, 77, 84, 84, 86, 95, 125, 96, 104, 104, 137, 143, 70, 80, 131, 145, 106, 130, 109, 137, 75, 104, 75, 97, 80.

(i) Draw a back-to-back stem-and-leaf diagram to show the data.

(ii) Compare the pulse rates before and after exercise.

School B: 59, 56, 40, 43, 46, 38, 29, 52, 54, 34, 23, 41, 42, 52, 50, 58, 60, 45, 45, 56, 59, 49, 44, 36, 38, 25, 56, 36, 42, 47, 50, 54, 59, 47, 58, 57.

Draw a back-to-back stem-and-leaf diagram and compare the ages of the teachers in the two schools.