Constructing Back-to-Back Stem and Leaf Plots

1). Here is a back-to-back stem and leaf plot showing pulse rate before and after exercise.

Before exercise	Stem	After exercise
9 6	**50**	
8 8 4 4 3 0	**60**	
9 8 7 5 5 3	**70**	6 8
8 6 2 1	**80**	2 4 5 8 9
0	**90**	2 5 6 7 7 9
	100	3 4 8 9
	110	2 8

a). Which group had the higher pulse rate?

b). Find the medians for both groups.

c). Comment on the shape of the stem and leaf plots.

2). Maximum daily temperatures (°C) for the first 14 days in June were recorded in Manchester and Sydney.

Manchester:	20	19	25	31	25	27	18	21	24	29	19	22	25	17
Sydney:	11	15	9	16	18	21	19	22	17	12	9	17	14	16

a). Make a back-to-back stem and leaf plot of this data. Have stem intervals every 5°C.

b). Which city is warmer in June, on average?

c). Find the medians for both sets.

3). Teenageers and adults were surveyed about the amount of time (in hours) they watch television each day.

Teenagers:	1.9	2.0	4.5	2.9	5.7	6.1	4.7	5.0	5.1	5.3	2.3	4.3	3.0	3.1	3.2	3.5	3.6
	3.8	4.2	3.9	4.0	1.3	1.5	4.1	4.5	2.5	3.4	3.4	2.8	6.2	2.7	3.3	6.3	
Adults:	3.1	3.2	0.1	2.2	2.4	2.6	0.3	5.1	0.3	0.9	1.1	1.3	1.4	1.6	3.9	1.8	4.5
0.9	2.0	2.1	2.2	2.8	2.9	0.4	0.5	0.6	3.1	3.2	1.0	3.7	1.0	1.1	3.5	4.2	0.8

a). Make a back-to-back stem and leaf plot of this data.

b). Which group watches the television more hours, on average?

c). Find the medians for both sets of data.

d). Comment on the shape of the stem and leaf plots.

4). Weight watchers group members were weighed, in kg, at the start of the course and after 6 months.

Start:	64	82	76	79	72	70	84	79	83	67	83	77	74	68	78	72	75
6 months in:	60	81	55	71	63	77	75	68	56	61	76	72	74	69	66	65	69

a). Make a back-to-back stem and leaf plot of this data. Have stem intervals every 5 kg.

b). Has the course been successful?

c). Find the medians for both sets of data.

d). Comment on the shape of the stem and leaf plots.

5). A factory monitored the output of two "identical" machines during May.

Machine 1:	133	152	159	161	101	119	124	157	148	116	103	114	151	166	157	118	115
	123	154	153	166	121	132	140	149	120	164	131	146	163	145			
Machine 2:	150	139	111	146	163	165	129	152	157	162	168	159	147	124	160	161	153
	147	153	138	164	166	155	149	158	148	138	138	152	164	145			

a). Make a back-to-back stem and leaf plot of this data.

b). Are the machines identical in their output?

c). Find the medians for both sets of data.

d). Comment on the shape of the stem and leaf plots.