概率统计

Section 1.2

Ex 11: stems: tens digit
leafs: ones digit

6L	03 4
6H	66 7899
7L	00 122244
7H	
8L	0011111222344
8H	5557 899
9L	03
9H	5 8

feature: (1) there is a gap in the data, ~~in row 7H~~ so there is no score is high 70's
(2) the peak is in the row 8L.
(3) the ~~the~~ distribution of the value is spread out.

Ex 14: stem: tens and ones digit
leaf: deciles digit (0.1)

2	23
3	23 44 56 77 89
4	013568 89
5	0000 111 44 55 66 789
6	0000122223344456667789999
7	000122334555555668
8	02233448
9	0122333356667788
10	2344455688
11	2335999
12	37
13	8
14	36
15	0035
16	
17	
18	9

b. the typical value is 7.0, as well as the median
c. The data appear to be ~~symmetric~~ concentrated
d. the data appears to be positively skewed.
e. the value 18.9 appears to be an outlier, it is two stems units away from the above

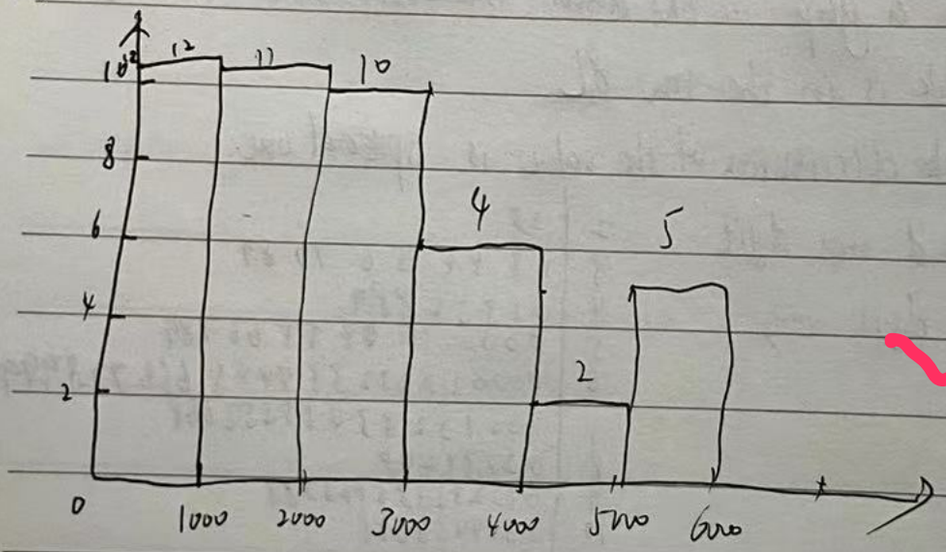
Ex20. stem: thousands digit

leaf: hundreds tens and one digit

0	~~100~~ 100 240 340 360 396 450 500 510 530 540 960 960
1	0 50 120 240 250 280 720 749 670 850 890
2	100 109 120 250 320 400 400 460 700 730
3	60 150 370 350 380 870
4	390 770
5	220 320 700 770 850

1(a) the stem-and-leaf diagram is positively skewed.

(b)



the ~~part~~ proportion of subdivision have total length less than 2m is 23

this is positively skewed

Section 1.3

Ex14 (a) the sorted sample U: 4.0 5.0 6.0 11.0 17.0 18.0 23.0 33.0 35.0 80.0

F: 0.3 2.0 3.0 4.0 ~~5.0~~ 4.0 5.0 8.0 8.9 9.0 9.0 9.2 11.0 14.0 20.0 21.0

21.5

- the mean of each sample is ~~8.9~~ and 8.56

(b) the median of U is 17.5 and F is 8.56

because the data changes greatly.

(c) trimmed mean : U is 17, trimmed percentage is 20%,
F is 8.23, trimmed percentage is (3%)
the trimmed means is smaller than mean and medians ✓

Ex 4a

(a) $\frac{7}{10}$

(b) $\bar{x} = \frac{7}{10}$, they are the same. ✗

(c) $0.80 \times 25 = 20$, $20 - 7 = 13$, it needs extra 13 ears.

Section 1.4

Ex 44.

(a) ~~From 23.5 to 49.3~~ range: $49.3 - 23.5 = 25.8$ ✓

~~(b) the s^2 is 54.79~~

~~(c) s is 74 $s^2 = \frac{\sum x^2 - \frac{(\sum x_i)^2}{n}}{n-1}$ 49.3112~~

(b) the sample variance is 49.3112

(c) the standard variance is $\sqrt{s^2} = 7.022$ ✓

(d) $s^2 = \frac{\sum_{i=1}^{n} x_i^2 - \frac{\sum_{i=1}^{n} (x_i)^2}{n}}{n-1} = 49.3112.$

Ex 56.

~~(a) the mean value is 2887.6 and median is 2888~~ 23.675 13.705

(b) the mean of the data is 19.25

the lower forth is 17.5

the upper forth is 19.97

$I_x = 2.47 \cdot 1.5 = 3.705$

So 23.78 is outliers. ✓

B+