Test 1 Reviews

1) It is next Monday September 30, 2024 (Group A) and next Wednesday October 2, 2024 (Group B).
2) Test will be in class at JBHT 234 from 9:40 to 10:30 am
3) Test 1 will cover Chapters 1, 2, 3, and 4.
4) Test 1 is open book, open notes, and you can bring in e-devices such as computer, iPhone, and iPad. And you need a calculator.
5) CEA students wishing to have your CEA accommodations need to contact ASAP.

Exercise 1

For the following raw data, please compute its mode, median, mean, variance, and st.d.

25, 25, 68, 72, 25, 57, 12, 17, 0, 2

Mode   25

Median

0, 2, 12, 17, 25, 25, 25, 57, 68, 72 (N = 10)

10/2 = 5th, and 6th

They are both 25, so the median is (25 + 25)/2 = 25

$$\bar{X} = \frac{\sum X_i}{N} = \frac{X_1 + X_2 + X_3 \dots + X_i}{N}$$

$$\bar{X} = \frac{\sum X_i}{N} = \frac{0 + 2 + 12 + 17 + 25 + 25 + 25 + 57 + 68 + 72}{10} = 30.3$$

0, 2, 12, 17, 25, 25, 25, 57, 68, 72

$$S^2 = \frac{\sum (X_i - \bar{X})^2}{N - 1}$$

S^2
$$= \frac{(0 - 30.3)^2 + (2 - 30.3)^2 + (12 - 30.3)^2 + (17 - 30.3)^2 + (25 - 30.3)^2 + (25 - 30.3)^2 + (25 - 30.3)^2 + (57 - 30.3)^2 + (68 - 30.3)^2 + (72 - 30.3)^2}{9}$$

$$S^2 = 687.6$$

$$S = \sqrt{\frac{\sum (X_i - \bar{X})^2}{N - 1}} = \sqrt{687.6} = 26.2$$

<u>Exercise 2</u>

For the following frequency table, please compute its mode, median, mean, variance, and std.

age	frequency	Cumulative frequency
0	100	100
10	2	102
21	59	161
34	32	193
42	39	232
60	57	289
N	289	---

Mode   0

Median   21

$290/2 = 145^{th}$

Mean ($\bar{X}$)   25.6

Variance (S^2)   512.0

St.d. (S)   22.6