OM 502 Business Statistics
Collaborative Learning Exercise

Instructions:

- Groups of two students
- Discuss the concepts before doing the Exercise
- State the formulae and equations upon which the calculations are based
- Check with you teammate the answers.
- If there are implications for decision making, please state as many as possible.
- You may ask questions during the execution of these problems.
- Time allocated for these two problems should not exceed 10 minutes for the first and 20 minutes for the second.

Problem (1)

The following data set pertains to the score of 20 students in an aptitude test:

101	132	145	144	130	88	156	188	169	130
90	140	130	139	99	100	208	192	165	216

Calculate the Range, Variance, and Standard Deviation of these data. In this instance, is the range a good measure of variability? Why?

Problem (2)

A random sample of 20 persons was drawn from the attendance in a baseball gage. Each was asked about their age, weight, gender, and height. Their answer is provided below:

Observation number	Age (Years)	Weight (Pounds)	Gender	Height (Centimeters)
1	11	140	M	120
2	17	135	M	145
3	19	120	M	160
4	13	125	F	120
5	12	134	M	125
6	13	136	F	120
7	13	150	M	110
8	14	120	F	130
9	14	150	M	135
10	18	175	F	160
11	12	110	F	100
12	19	140	M	160
13	15	150	F	156
14	16	155	M	170

15	12	140	F	110
16	14	160	F	130
17	18	165	M	150
18	19	180	M	170
19	17	170	M	155
20	16	16	F	150

- Which of these variables can be classified as quantitative variables and which can be classifies as a qualitative Variable.

- Compute the mean, mode, median, range for each quantitative variable.

- For the Variable (age) find the following statistics:
  (a) The first, second and third quartile.
  (b) The 50^{th}, 70^{th}, and 90^{th}, percentiles.

- For the Variable "Height," find the following Statistics
  (a) Variance
  (b) Standard Deviation

HINT: Before you work on these simple problems, please discuss with your teammate which formulae or equation should be used in each of these situations.