"ASSIGNMENT # 02"; SECTION: _____; STD-ID: _____

[DEADLINE: 03/03/2021. (SUBMIT BY SELF IN OFFICE FROM 10-11, AFTER THAT I WILL NOT CHECK).]

PRACTICE QUESTIONS FROM STATISTICS PORTION.

EXERCISE 2.2: Questions from 2.18 to 2.29. (Categorical Data Freq. Distn Questions)

EXERCISE 2.3: Questions from 2.52 to 2.59. (Ungrouped & Grouped Data Freq. Ditns Qns) **(NOTE: ALSO PLOT FREQUENCY OR RELATIVE FREQUENCY POLYGON & OGIVE FOR GROUPED DATA ONLY).**

Same Exercise for STEM & LEAF PLOT questions. Questions are: 2.68, 2.69, 2.71(Do not follow instruction, just do what you learnt in class, and must arrange your data in stems).

MEAN, MEDIAN, MODE QUESTIONS.

EXERCISE 3.1: Find mean, median and mode also midrange.

For Ungrouped Data: (Mean, MD, Mode, Midrange= Highest + Lowest/2.)

Questions are: 3.16, 3.17, 3,19, 3.20, 3.20, 3.24. **(NOTE: Do not follow the extra instructions, do what you have learnt in class, also notice that for these type of ungrouped data sets no need to construct frequency distribution, as frequencies of elements are not very large and can be easily calculated to find mean, also can easily find middle value for median, and mode. If ungrouped data is very large and there are many repetitions, then u need to construct freq. dist. and find median by (sums of 'f')/n and check it in C.F column). Also find skewness by comparing mean and mode or by plotting histogram.**

For Categorical Data Mean, MD, Mode Questions from same exercise section: 3.36, 3.34. (First find Freq. and then use them to find Mean, Median and Mode{ do not check highest freq. just see repetition}).

GROUPED DATA SETS QUESTIONS: (for mean, MD, and modal class).

Find Mean, MD, and Modal Class for the given Grouped data sets:

First Data:

Class limits	Frequency
90–98	6
99–107	22
108–116	43
117–125	28
126–134	9

Second Data:

Class	Frequency
2.48–7.48	7
7.49–12.49	3
12.50–17.50	1
17.51–22.51	7
22.52–27.52	5
27.53–32.53	5

Third Data:

Class limits	Frequency
13–19	2
20–26	7
27–33	12
34–40	5
41–47	6
48–54	1
55–61	0
62–68	2

Quartile, Decile, Percentile, and IQR(Q3-Q1) and Box-Plot for ungrouped data.

Q.1 Find D4 and D6 from the following weights in kg:

19, 27, 24, 39, 57, 44, 56, 50, 59, 67, 62, 42, 47, 60, 26, 34, 57, 51, 59, 45. [ANS: D4=44.4 kg, D6=54 kg].

Q.2 Find Q1, Q2, and Q3, for the following data, and also find IQR, and plot Box-Plot for this data:

2, 3, 3, 9, 6, 6, 12, 11, 8, 2, 3, 5, 7, 5, 4, 4, 5, 12, 9. [ANS: QUARTILE(1)=3, Q.2=5, Q.3=9].

Quartile, Decile, Percentile for Grouped Data.

Q.1 Find D2 and D3 for the following grouped frequency distribution:

GROUPS	0 ----- 5	5 ----- 10	10 ----- 15	15 ----- 20	20 ----- 25
FREQUENCY	7	18	25	30	20

[ANS: D2= 8.6, D3= 11]

Q.2 Find Q1 and Q3 for the following grouped frequency distribution:

GROUPS	150 ----- 170	170 ----- 190	190 ----- 210	210 ----- 230	230 ----- 250
FREQUENCY	30	50	80	30	10

[ANS: Q1= 178, Q3= 207.5]

Variance & Standard Deviation for Ungrouped and Grouped data.

Q.1 Find sample variance and standard deviation for single grouping (ungrouped data) two problems by using main formula first and then compare your result by finding variance and standard deviation using shortcut formula of variance and standard deviation. Also state, which data is more **variable** (to see variability find CVAR and compare).

Europe		Asia	
Sweden	$48,704	Korea	$26,852
Germany	41,441	Japan	23,493
Spain	32,679	India	18,247
Finland	32,136	Malaysia	13,647
Denmark	30,384	Philippines	9,857
Netherlands	29,326	Thailand	5,862
Scotland	27,789		

Q.2 Find Variance and Standard Deviation for the data given as population. Also find the range and CVAR (Coefficient of Variation) of the data.

15,458	1,055	5,008	3,598	8,984
1,337	4,132	10,618	17,361	6,081
6,482	25,090	12,681	16,286	18,832
12,470	17,842	16,601	4,587	47,196
23,205	25,213	23,017	27,768	2,686
7,768	25,825	4,962	22,704	2,694
4,131	13,144	15,582	7,279	12,613
810	13,350	1,208	22,242	7,477
10,902	2,343	2,333	2,979	6,578
14,318	4,773	6,252	734	13,220

Q.3 Find Variance and Standard Deviation for given two Grouped Data (IS ALWAYS A SAMPLE) sets with frequencies:

FIRST DATA:

CLASS	5.5 – 10.5	10.5 -- 15.5	15.5 -- 20.5	20.5 -- 25.5	25.5 -- 30.5	30.5 -- 35.5	35.5 -- 40.5
FREQUENCY	1	2	3	5	4	3	2

[ANS: $S^2 = 68.7, S = 8.3$]; NOTE GROUPED DATA IS ALWAYS SAMPLE DATA SO VARIANCE IS "S^2" & S.D IS "S"

SECOND DATA:

CLASS	52.5 – 63.5	63.5 -- 74.5	74.5 -- 85.5	85.5 -- 96.5	96.5 -- 107.5	107.5 -- 118.5
FREQUENCY	6	12	25	18	14	5