Assignment 2

1. How can we figure out what the interquartile range is?

Ans. The interquartile range is found by subtracting the Q1 value from the Q3 value: Q1 is the value below which 25 percent of the distribution lies, while Q3 is the value below which 75 percent of the distribution lies.

2. What exactly is the value of the 5-number theory?

Ans. 5 is the absolute value for both 5 and -5. |-5| = +5 and |+ 5| = +5 It helps in connecting the absolute value of complex numbers and the magnitudes of the vector.

3. What is the relationship between standard deviation and variance?

Ans. Variance is the average squared deviations from the mean, while standard deviation is the square root of this number. Both measures reflect variability in a distribution, but their units differ: Standard deviation is expressed in the same units as the original values (e.g., minutes or meters).

4. What does the difference between variance and standard deviation mean?

Ans. Variance is a measure of how far the values are spread in a given data set from their arithmetic mean, whereas standard deviation is a measure of dispersion of values relative to the mean.

5. When is it appropriate to refer to a skewed data distribution?

Ans. We call data skewed when the curve appears distorted to the left or right in a statistical distribution. In a normal distribution, the graph appears symmetrical, which means there are as many data values on the left side of the median as on the right side.