**ASSIGNMENT 1 – GETTING STARTED WITH STATISTICS**

1. If I find Covariance between same variable what will be the output? What will be correlation coefficient?

Answer: **The covariance between same variable will be variance itself. The correlation coefficient will be 1.**

2. Assume I have a set of numbers. The mean, median and mode of the set of numbers are equal. If I draw a Frequency plot of individual distinct numbers, how would the plot look like?

Answer: **If Mean, Median and mode of set of numbers are equal, it is perfect normal distribution curve. As per the options given, it will be Option B.**

3. If the scores for a given sample distribution is: 32 32 35 36 37 38 38 39 39 39 40 40 42 45

Find the Variance and the Standard Deviation

Answer:

**Variance – 12.46**

**Standard Deviation – 3.53**

4. The following table shows percent variations of two financial indices, the NYSE (New York Stock Exchange ) and the NASDAQ composite (National Association of Securities Dealers Automated Quotation) in 10 consecutive days:

Use a suitable measure to quantify the dependence between the variations of the two indices

and comment on the result.

Answer:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Day | NYSE | NASDAQ | X Bar | Y Bar | Product |
| 1 | 0.58 | 0.7 | 0.921 | 1.013 | 0.93 |
| 2 | 0.01 | -0.79 | 0.351 | -0.477 | -0.17 |
| 3 | 0.43 | 0.85 | 0.771 | 1.163 | 0.90 |
| 4 | -0.14 | -0.16 | 0.201 | 0.153 | 0.03 |
| 5 | -1.15 | -0.71 | -0.809 | -0.397 | 0.32 |
| 6 | 0.15 | -0.02 | 0.491 | 0.293 | 0.14 |
| 7 | -1.23 | -1.1 | -0.889 | -0.787 | 0.70 |
| 8 | -0.88 | -0.77 | -0.539 | -0.457 | 0.25 |
| 9 | -1.26 | -0.78 | -0.919 | -0.467 | 0.43 |
| 10 | 0.08 | -0.35 | 0.421 | -0.037 | -0.02 |

**Covariance – 0.351**

**Correlation Coefficient – 0.82**

**Observation : As correlation coefficient is 0.82, it depicts NYSE & NASDAQ are highly positive correlated, which means a slightest change in NYSE will have equivalent change in NASDAQ as well.**