1. If the variance of a variable/column is 0 then what does it mean? Can we use that variable for our analysis?

Ans : Since the variance is 0 it means that the values of particular column is same that is constant. It is of no use taking this variable into consideration for analysis.

1. Calculate mean, median, mode, variance and standard deviation for column A Mention all step by step formula calculations in the answer sheet.

Ans:

a.Mean : 6.54

The sum of all variables in Column A is Sum=72. Total number of values N =11.

Mean=Sum/N=6.54

b.Median : 7

All the values are sorted in ascending order. There are 11 rows .So if we take 6th row 50% of the data is on one side and remaining 50% data on other side. Media is value in 6th row.

c. Mode : 7

If we observe al l the values 7 value is more frequent or count of 7 is highest.

1. 3. In a group of 12 scores, the largest score is increased by 36 points. What effect will this have on the mean of the scores?

Ans : Lets say there are 12 scores as 1,2,3....12. There mean would be 78/12=9.5.

We are now increasing the largest value with 36 that is highest score in above 12+38=48.

Now mean would be 9.5. The difference in both mean is 3. So mean is increased to by 36/12 points. The above can also be explained with below calculation

1+2+3+4...12/12 is same as 1/12 + 2/12 ......12/12. So we can just divide the newly added value by number of values o observe increase in mean.

4. Explain the difference between Data (Singular) and Data (Plural) with examples?

Ans: Data singular is single value of any variable. Data plural is all the values of variable.

If we imagine the vehicle details columns like mileage, number of seats,capacity,Model year etc are the variables. Lets consider mileage column. If we take single value then it is called as data singular and if consider all the values of mileage column the it is data Plural. Any single data point of variable is considered to Data Singular and all the points as data plural.

5 .How the inferential statistics helps to make decisions out of it?

Ans: Inferential statistics helps in predictions from data. Inferential statics helps us in making decision on population based on sample data. It is cumbersome task to make analysis on population data so sample of data is taken and predictions are made. Lets take an example like Height of US population. If we want to analyse on US heights it is difficult considering all the data points. Sample of data is taken.