Stats Solution:

1. What is the meaning of six sigma in statistics? Give proper example

Solution : Six sigma refers to the level of quality where the process produces extremely low defects.It means the process is highly consistent and reliable.Let us consider that we are making coffee. Before using six sigma, we care not using any standard measurements for a cup of coffee like 2 teaspoons of coffee powder, 1 tablespoon of sugar, 1 cup of milk ,etc. This leads us to make bad coffee like it may be too strong, less swett,etc. So, here our aim is to make a perfect amazing coffee, so we are using standard measurements for making a cup of coffee. After we start making coffee with measurements precisely, the coffee is becoming better. Now the chances of making a bad coffee is very low. So, here six sigma represents high level of consistency and quality in the process.

2. What type of data does not have a log-normal distribution or a Gaussian distribution? Give proper example

Solution : We can consider webpage popularity which often follows power-law distribution. We cannot say that a particular webpage will have a similar number of visits which forms a bell curve. It may receive large number of visits, it may get no population at all.

3.What is the meaning of the five-number summary in Statistics? Give proper example

Solution : The five-number summary provides a summary of the distribution of the dataset. It has five components which are minimum value, first quartile(q1), median(q2), third quartile(q3), maximum value. Let us consider we have a dataset of marks scored by students of class 8 in maths subject.

Marks = 65,72,78,81,85,88,90,92,95,98

The five number summary is,
Minimum value = 65
First quartile(q1) = 78
median(q2) = 87.5
third quartile(q3) = 92
Maximum value = 98