UCS410: PROBABILITY AND STATISTICS

Laboratory Assignment – 1

You have six courses in this semester (one of these is UCS410) and there are 750 students in your class. Generate the marks of these 750 students for the six courses using the Linear Congruential Method (LCM), which is a type of random number generator. You should note that the marks will be uniformly distributed over [0, 100].

Find the mean, median and standard deviation of the all the six subjects. Also, find the mean, median and standard deviation of the sum of marks in the six courses. You have also to draw six histograms for the marks in the six courses and one for the total marks.

Study the concept of outliers in the data. Find the outliers in the six courses that you are studying based upon IQR concept (Inter quartile range).

Note1: IQR is the range between the first and the third quartiles namely Q1 and Q3: IQR = Q3 –Q1. The data points which fall below Q1 – 1.5 IQR or above Q3 + 1.5 IQR are outliers.

Laboratory Assignment – 2

Now, you have learnt the concept of generating data using random number generation, and finding some of the descriptive measures associated with the data. Based on your interest, search a suitable data from web. Understand the data completely, find the descriptive statistics associated with this data and draw the histograms for all the variables involved. You should also find the outliers existing in the data for different variables.