MM 217 Data analysis and interpretation
3 September, 2019

Consider the data of mechanical properties of an engineering material of importance – given in the file **TensileDataA.csv**. Among other things, the file contains the temperature of test, yield strength, UTS, % elongation, % reduction of area, size of the sample and direction of test.

(1) Is there a correlation between size of the sample of yield strength? Size of the sample and UTS? Size of the sample and % elongation? Size of the sample and % reduction of area?

(2) What are the mean, mode and median of yield strength and UTS?

(3) Plot frequency plots and cumulative frequency plots of yield strength and UTS. Plot boxplots of yield strength and UTS.

(4) Is there a correlation between yield strength and UTS?

(5) What else can you say about the given data? Further, if you have noticed any correlations in the data, can you think of any reason for those correlations?