

Stat 101 – Lab

- The file "Table 1.MTB" contains information for a group of 27 students enrolled in "Stat101". We are interested in the variables: midterm1, midterm2, Instructor in course "Stat101": Professor 1, Professor 2 and Professor 3, gender of student, weight and height. See the descriptions below.

Column	Name	Count	Description
C1	Midterm1	27	1 st midterm in course "Stat101".
C2	Midterm2	27	2 nd midterm in course "Stat101".
C3	Professors	27	1: Professor 1, 2: Professor 2 and 3: Professor 3.
C4	Gender	27	1: for male and 0 : for female
C5	weight	27	Weight of students in "stat101"
C6	height	27	Height of students in "stat101"

Use the data to answer the following questions:

1. Classify the variables in the data set as categorical or quantitative.
2. Use Box plots to compare the distribution of height of male and that of female.
3. Make a histogram of the Medterm1. Comment on the shape of the histogram.
4. Give a five-number summary of the height of all students.
5. Make a scatter plot of the height and weight of students. Describe the overall pattern of the plot. Are there any outliers?
6. Find a 95% CI for the mean of performance of the students in the midterm1.
7. Find a 95% CI for the proportion of female.
8. Repeat part (7) for male.
9. It is claimed by an association that the average weight of students not equal 70 kg. Test this claim at 5% significance level.
10. Write down the least squares regression equation for Y (C5) on X (C6) and plot it on the scatter plot.
11. Compute the correlation coefficient between X and Y? Comment on the value.
12. Fit the least squares regression equation and use it to predict weight when height = 150