Instruction:

(A) Questions in this paper should be answered by students whose **surnames** fall within the range **A-K**.

(B) Use Excel file '**Dataset1 part IIIA** to answer the questions asked.

(**C**) A heavy **penalty** will be applied if your answers are not based on dataset assigned to you.

Instructions for Dataset1 part IIIA: Multiple Regression Analysis

A researcher took a random sample of 40 professional golfers playing in Brisbane and collected the following information: golfer's average driving distance, gender, and driving accuracy (i.e., percent of drives that land in the fairway). Data for this are saved in **Dataset1 part IIIA**.

The variables saved in **Dataset1 part IIIA** are:

- accuracy (Y, driving accuracy in percent)
- distance (X1, average driving distance in yards)
- gender (X2, coded 1 if male and 0 if female)

The dependent variable for your analysis is **accuracy**.

Answer the following questions using **Dataset1 part IIIA**.

(a) Estimate a regression model using X1 and X2 to predict Y (state the multiple regression equation).
(b) Interpret the meaning of the slope of Y with X2.
(c) What are the estimated values of the intercept when X2 = 0 and X2 = 1?
(d) At the 5% level of significance, test whether the intercepts differ by gender. Follow all the necessary steps and use t-test.
(e) Estimate a regression model using X1, X2 and an interaction between X1 and X2 to predict Y (state the multiple regression equation).
(f) Interpret the meaning of the slope Y with the interaction term.
(g) At the 5% level of significance, test whether the slope of Y with X1 differs by gender. Follow all the necessary steps and use t-test.