MTH 441A: Lab 1

P 1. Data File import:

(1) Create a **your_roll_number.xlsx** file in a folder (name it as **LRA441_rollnumber**). File must contain columns Y, X1 and X2 with at least 5 data entries each.

(2) Load package **xlsx** in **Rstudio** (if not installed already). Write

install.packages("xlsx")
library("xlsx")
Data_exm< −read.xlsx("path_of_of_your_file", sheetIndex=1, header=TRUE)

(3) Print Data_exm$Y, Data_exm$X1 and Data_exm$X2

P 2. Data export: Create an artificial data by squaring the columns of previous data.

Ys< −Data_exm$Y^2
X1s< −Data_exm$X1^2
X2s< −Data_exm$X2^2

Store the data in an appropriate matrix format:

E_Data_1< −matrix(data=c(Ys, X1s, X2s), nrow=4, ncol=3)
colnames(E_Data_1) < − c("Y1s","X1s","X2s")

Write the data in an xlsx file "Lab1_file1_export.xlsx":

write.xlsx(E_Data_1, "Path/Lab1_file1_export.xlsx", sheetName = "Sheet1", col.names = TRUE, row.names = FALSE, append = FALSE)

P 3. Find least square estimates for the data you considered in **P 1** using the matrix multiplication and inverse rules.

P 4. Use **R** inbuilt function "**lm**" to find the least square estimates for the data you considered in **P 1.**