

## Practical works: Simple Regression

1. Import the two columns of the Excel table "Exemple2Reference\_SReg".
2. Plot the scattergram of  $X$  and  $Y$ , use the command `plot()`, comment the obtained graph.
3. Apply the command `lm(Y ~ X)`, explain the parameters you get.
4. Use the command `abline(regXY$coefficients)` and plot the regression line, comment.
5. Apply the command `anova(regXY)` and explain all outputs and how you can get them manually


6. By using the command `confint()` give a confidence interval of the regression coefficients with a level of confidence of 5%.
7. Explain how you can obtain the same confidence interval by hand but using "R" !
8. Use the command `predict()` to predict the value of  $Y$  for  $X = 500$ .