Econometrics (I) homework 04

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#匯入資料
library(readxl)
data <- read_excel("Econometric-hw4data.xlsx")
View(data)

#Set X,Y matrix
X <- as.matrix(data[, 2:6])
Y <- as.matrix(data[, 1])

#find Beta=(t(X)X)^-1t(X)Y
Beta <- solve(t(X)%*%X)%*%t(X)%*%Y
View(Beta)
                    Y
constant -0.5090707909
T        -0.0165803945
G         0.6703834376
R        -0.0023259283
P        -0.0000940107

#find error=Y-Beta*X
error <- Y - X%*%Beta
cat(error)
-0.01019905 -0.001008246 0.003119672 0.008041796 0.002755768
0.0004118672 0.007876982 -0.005786156 -0.003580959 0.0006970775
0.001820468 0.0002612164 -0.01027785 0.006711426 -0.000844007

#find X*error
X_t_error <- t(X)%*%error
View(X_t_error)
7.882583e-13
6.696116e-12
1.028724e-12
6.093877e-12
5.357526e-12
```