

Econometrics (I) homework 04

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```
#匯入資料
library(readxl)
作業資料 <- read_excel("作業資料.xlsx")
View(作業資料)

#Set X,Y matrix
X <- as.matrix(作業資料[, 2:6])
Y <- as.matrix(作業資料[, 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
```