Codes

refrig <- read.csv(choose.files(), header=TRUE)

#data file "refrigerator"

attach(refrig)

model1 =lm(PRICE ~ECOST + RSIZE + FSIZE + SHELVES + FEATURES)

summary(model1)

Call:

lm(formula = PRICE ~ ECOST + RSIZE + FSIZE + SHELVES + FEATURES)

Residuals:

Min 1Q Median 3Q Max

-84.260 -48.380 -5.217 42.942 119.797

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) -797.808 271.409 -2.940 0.006161 \*\*

ECOST -6.958 2.275 -3.058 0.004563 \*\*

RSIZE 76.497 19.442 3.935 0.000438 \*\*\*

FSIZE 137.381 23.763 5.781 2.29e-06 \*\*\*

SHELVES 37.937 9.886 3.837 0.000573 \*\*\*

FEATURES 23.764 4.512 5.267 9.98e-06 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 60.65 on 31 degrees of freedom

Multiple R-squared: 0.8379, Adjusted R-squared: 0.8118

F-statistic: 32.05 on 5 and 31 DF, p-value: 2.271e-11

cor(cbind(PRICE,ECOST,RSIZE,FSIZE,SHELVES,FEATURES))

PRICE ECOST RSIZE FSIZE SHELVES FEATURES

PRICE 1.0000000 0.52221565 -0.02399240 0.7200542 0.3995884 0.69743175

ECOST 0.5222156 1.00000000 -0.03340599 0.8548806 0.1877225 0.33423817

RSIZE -0.0239924 -0.03340599 1.00000000 -0.2346965 -0.3631354 -0.09575734

FSIZE 0.7200542 0.85488064 -0.23469650 1.0000000 0.2511044 0.43930765

SHELVES 0.3995884 0.18772247 -0.36313539 0.2511044 1.0000000 0.16048117

FEATURES 0.6974317 0.33423817 -0.09575734 0.4393077 0.1604812 1.00000000

Codes (Partial correlation)

plot(ECOST,PRICE)

cor(ECOST,PRICE)

[1] 0.5222156

model1 =lm(PRICE ~ECOST + RSIZE + FSIZE + SHELVES + FEATURES)

model2 =lm(PRICE ~FSIZE + RSIZE + SHELVES + FEATURES)

e2 =residuals(model2)

model3 = lm(ECOST ~FSIZE + RSIZE + SHELVES + FEATURES)

e3 = residuals(model3)

plot(e3,e2)

cor(e3,e2)

[1] -0.4814004

> #added variable plot,partial correlation coefficient

> # the plot and partial correlation coefficient and now both negative

> # when before they r postive

> #this partial correlation takes into ACCT the effect of other X' variables

>where actually contributes a big part to predict Y hat

> dim(refrig)

[1] 37 8

> # n=37 and there r 8 variables,only 5 we used in model1 above,so k=5