スクリプト：

```
data_3 = read.csv("attend.csv", header = TRUE, sep = ",");
data_3;
reg6 = lm(stndfnl ~ atndrte + frosh + soph + priGPA + ACT + I(priGPA^2) + I(ACT^2), data = data_3);
summary(reg6)
library(lmtest);
library(sandwich);
coeftest(reg6, vcov = vcovHC(reg6, "HC1"))
install.packages("car");
library(car);
linearHypothesis(reg6, c( "atndrte" , "frosh" , "soph" ,"priGPA" , "ACT" , "I(priGPA^2)" , "I(ACT^2)"), c(0,0,0,0,0,0),white.adjust=c("hc1"), test=c("Chisq"))
linearHypothesis(reg6, c( "I(priGPA^2)" , "I(ACT^2)"), c(0,0),white.adjust=c("hc1"), test=c("Chisq"))
```

結果：

```
Call:
lm(formula = stndfnl ~ atndrte + frosh + soph + priGPA + ACT +
    I(priGPA^2) + I(ACT^2), data = data_3)

Residuals:
     Min       1Q   Median       3Q      Max
-3.14241 -0.54902 -0.02163  0.56155  2.36547

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  1.384811   1.239361   1.117  0.26424
atndrte      0.006232   0.002358   2.642  0.00842 **
frosh       -0.105337   0.106975  -0.985  0.32513
soph        -0.180729   0.088635  -2.039  0.04184 *
priGPA      -1.526139   0.473971  -3.220  0.00134 **
ACT         -0.112433   0.098172  -1.145  0.25251
I(priGPA^2)  0.368218   0.088985   4.138 3.95e-05 ***
I(ACT^2)     0.004182   0.002169   1.928  0.05425 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.8718 on 672 degrees of freedom
Multiple R-squared:  0.2316,	Adjusted R-squared:  0.2236
F-statistic: 28.94 on 7 and 672 DF,  p-value: < 2.2e-16
```

```
t test of coefficients:

             Estimate Std. Error t value Pr(>|t|)
(Intercept)  1.3848114  1.2387479  1.1179 0.264004
atndrte      0.0062317  0.0023226  2.6831 0.007474 **
frosh       -0.1053368  0.1031666 -1.0210 0.307605
soph        -0.1807289  0.0871289 -2.0743 0.038434 *
priGPA      -1.5261395  0.4939090 -3.0899 0.002085 **
ACT         -0.1124330  0.1023973 -1.0980 0.272594
I(priGPA^2)  0.3682175  0.0898902  4.0963 4.71e-05 ***
I(ACT^2)     0.0041821  0.0022661  1.8455 0.065404 .
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
Linear hypothesis test

Hypothesis:
atndrte = 0
frosh = 0
soph = 0
priGPA = 0
ACT = 0
I(priGPA^2) = 0
I(ACT^2) = 0

Model 1: restricted model
Model 2: stndfnl ~ atndrte + frosh + soph + priGPA + ACT +
I(priGPA^2) +
    I(ACT^2)

Note: Coefficient covariance matrix supplied.

  Res.Df Df  Chisq Pr(>Chisq)
1    679
2    672  7 244.62  < 2.2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Linear hypothesis test

Hypothesis:
I(priGPA^2) = 0
I(ACT^2) = 0

Model 1: restricted model
```

```
Model 2: stndfnl ~ atndrte + frosh + soph + priGPA + ACT +
I(priGPA^2) +
    I(ACT^2)

Note: Coefficient covariance matrix supplied.

  Res.Df Df  Chisq Pr(>Chisq)
1    674
2    672  2 23.545  7.715e-06 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```