Hypothesis Testing of restricted and full model

```
> model_restricted <- lm(y~x4+x5, data=s_data_frame)
> summary(model_restricted)

Call:
lm(formula = y ~ x4 + x5, data = s_data_frame)

Residuals:
     Min       1Q   Median       3Q      Max
-1.56123 -0.49604  0.09069  0.45717  0.98057

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  -6.3351     0.6009 -10.543 2.23e-09 ***
x4            4.1542     1.7104   2.429   0.0252 *
x5           15.0160     2.6057   5.763 1.49e-05 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.6875 on 19 degrees of freedom
Multiple R-squared:  0.9584,    Adjusted R-squared:  0.954
F-statistic: 218.9 on 2 and 19 DF,  p-value: 7.584e-14


> regg_1<-lm(y~ x1+x2+x3+x4+x5, data=s_data_frame)
>
> summary(regg_1)

Call:
lm(formula = y ~ x1 + x2 + x3 + x4 + x5, data = s_data_frame)

Residuals:
    Min      1Q  Median      3Q     Max
-1.2610 -0.5373  0.1355  0.5120  0.8611

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  -6.5122     0.9336  -6.976 3.13e-06 ***
x1            1.9994     2.5733   0.777  0.44851
x2           -3.6751     2.7737  -1.325  0.20378
x3            2.5245     6.3475   0.398  0.69610
x4            5.1581     3.6603   1.409  0.17791
x5           14.4012     4.8560   2.966  0.00911 **
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.7035 on 16 degrees of freedom
Multiple R-squared:  0.9633,    Adjusted R-squared:  0.9519
F-statistic: 84.07 on 5 and 16 DF,  p-value: 6.575e-11
```

```
> anova(regg_1,model_restricted)
Analysis of Variance Table

Model 1: y ~ x1 + x2 + x3 + x4 + x5
Model 2: y ~ x4 + x5
  Res.Df    RSS Df Sum of Sq      F Pr(>F)
1     16 7.9175
2     19 8.9793 -3   -1.0617 0.7152 0.5572
>
```