**#Analysis of Variance test:-**

**#One-way ANOVA test**

library(dplyr)

boxplot(mtcars$disp~factor(mtcars$gear),xlab="gear",ylab="disp")

mtcars\_aov<- aov(mtcars$disp~factor(mtcars$gear))

summary(mtcars\_aov)

**#Two-way ANOVA test**

library(dplyr)

boxplot(mtcars$disp~mtcars$gear,subset = (mtcars$am == 0),

xlab = "gear",ylab="disp",main="Atomatic")

boxplot(mtcars$disp~mtcars$gear,subset=(mtcars$am==1),

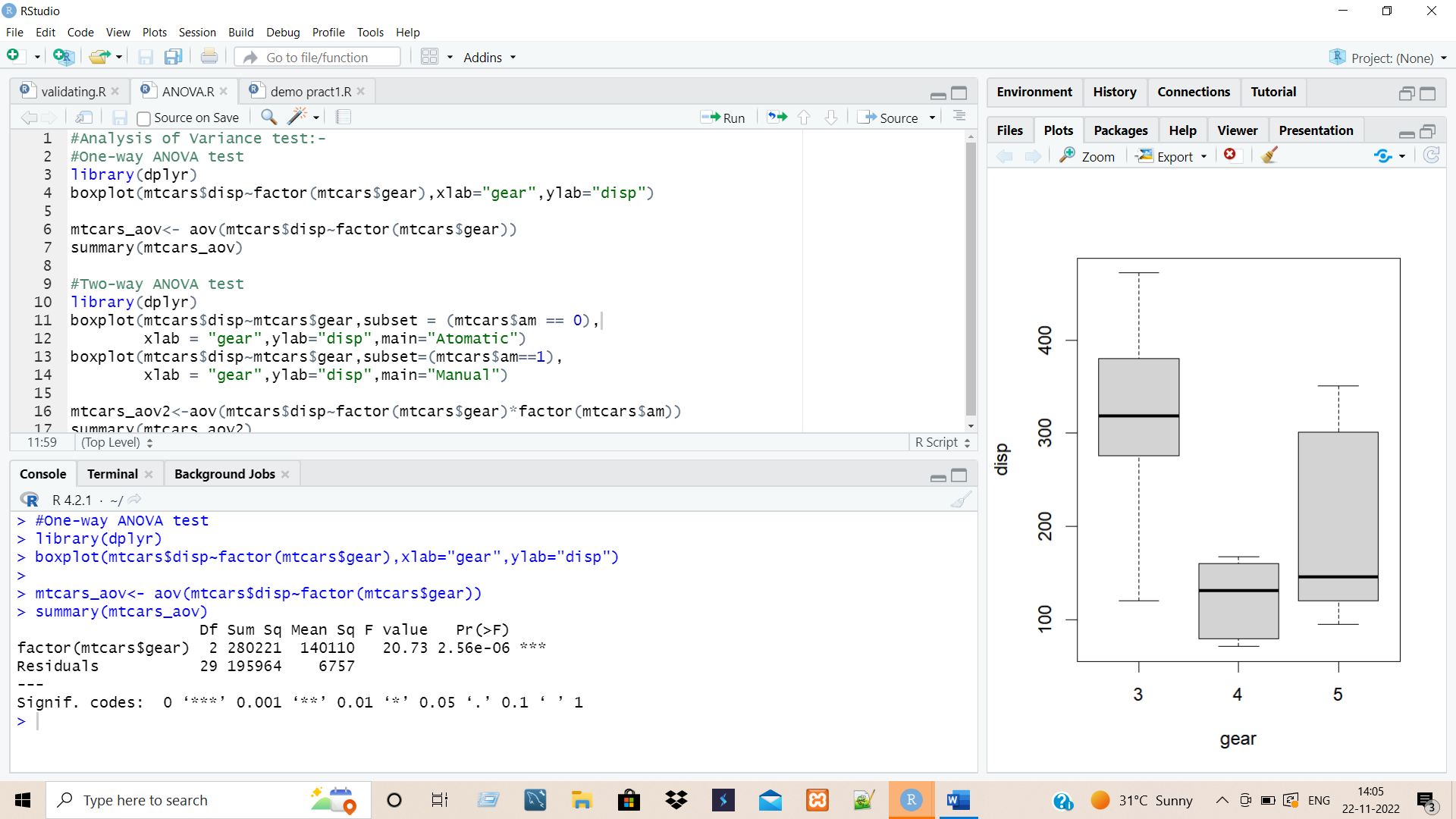
xlab = "gear",ylab="disp",main="Manual")

mtcars\_aov2<-aov(mtcars$disp~factor(mtcars$gear)\*factor(mtcars$am))

summary(mtcars\_aov2)

**OUTPUT: -**

#One-way ANOVA test



> library(dplyr)

> boxplot(mtcars$disp~factor(mtcars$gear),xlab="gear",ylab="disp")

>

> mtcars\_aov<- aov(mtcars$disp~factor(mtcars$gear))

> summary(mtcars\_aov)

Df Sum Sq Mean Sq F value Pr(>F)

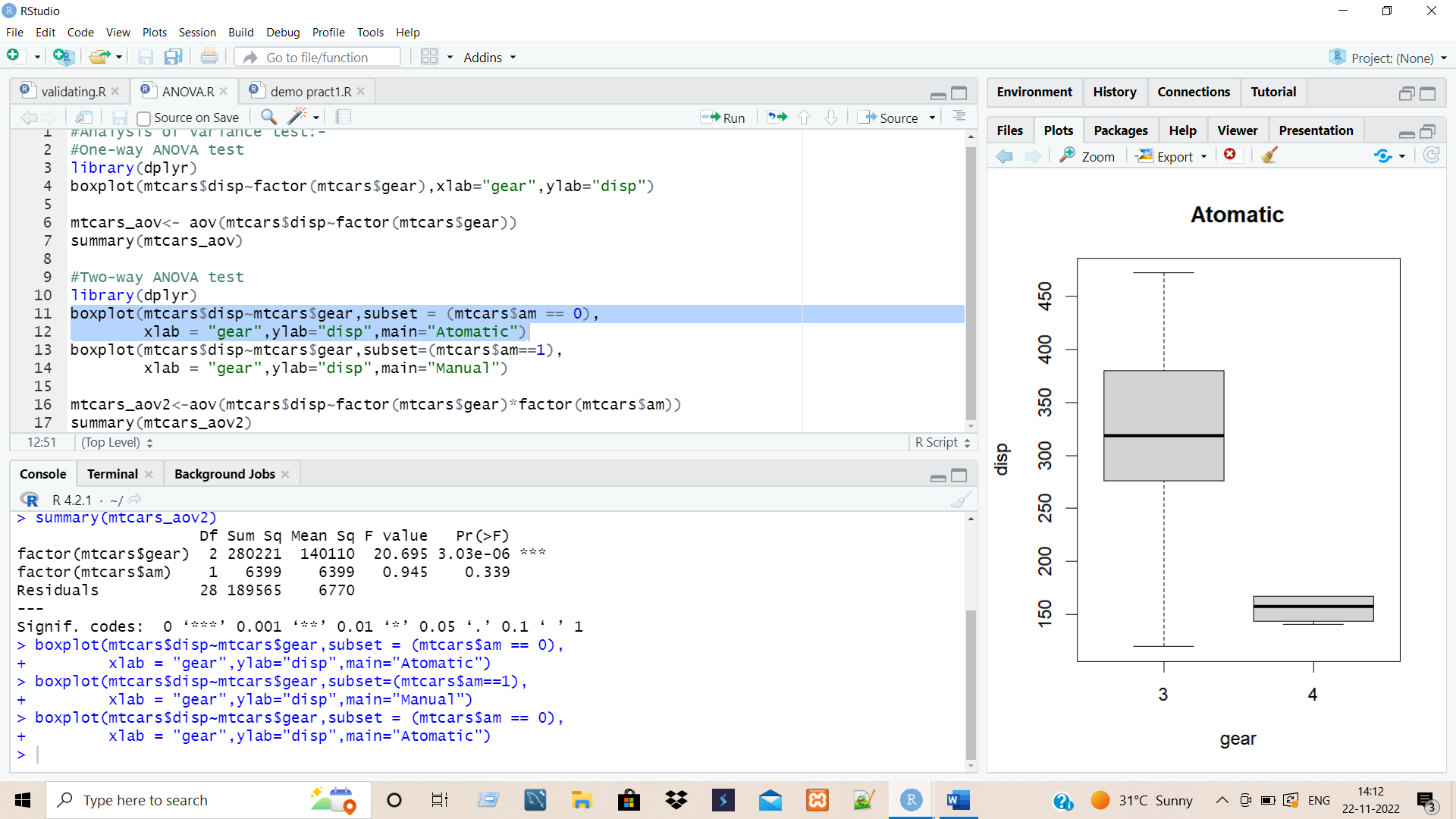
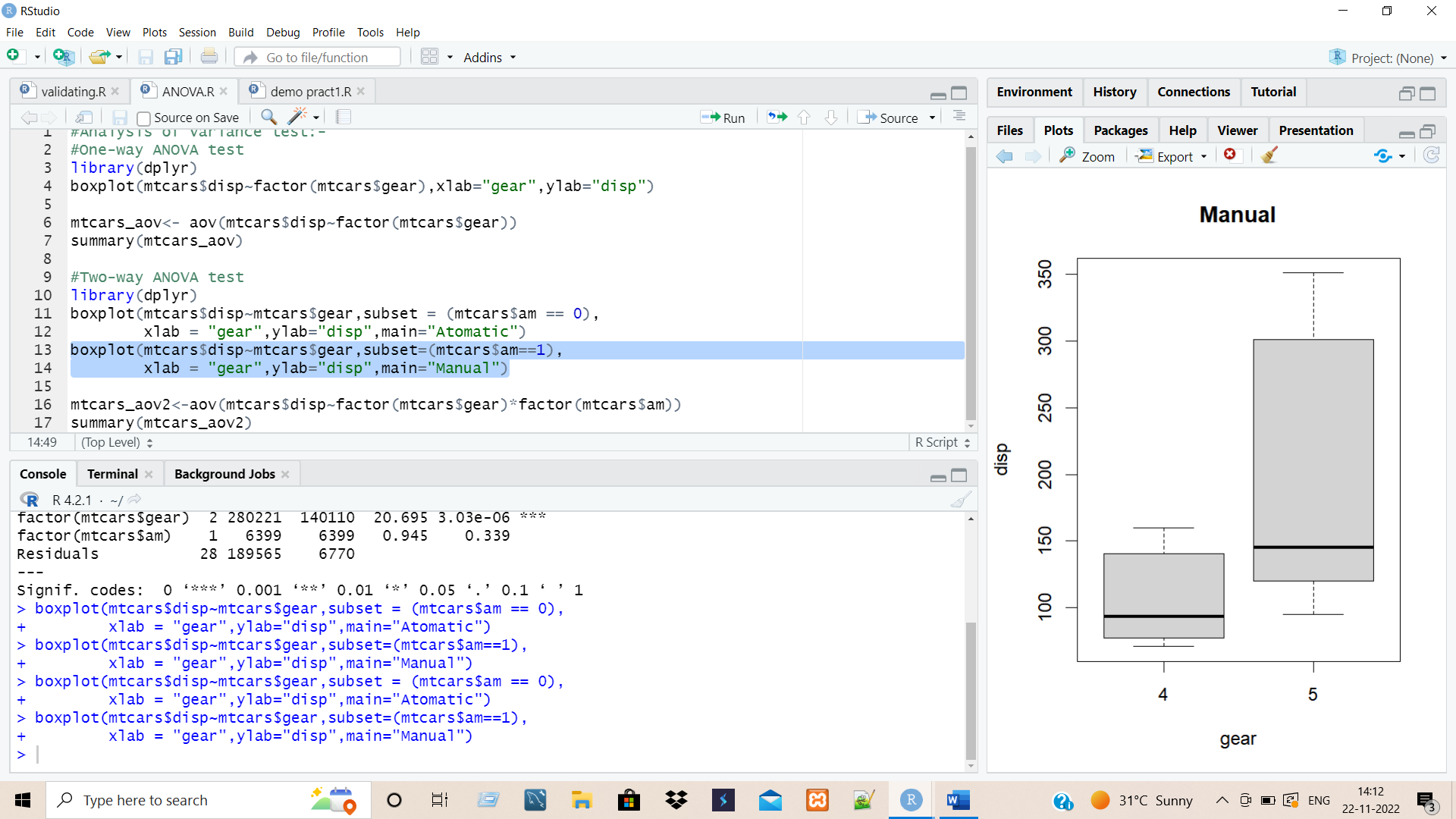
factor(mtcars$gear) 2 280221 140110 20.73 2.56e-06 \*\*\*

Residuals 29 195964 6757

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

#Two-way ANOVA test

> library(dplyr)

> boxplot(mtcars$disp~mtcars$gear,subset = (mtcars$am == 0),

+ xlab = "gear",ylab="disp",main="Atomatic")

> boxplot(mtcars$disp~mtcars$gear,subset=(mtcars$am==1),

+ xlab = "gear",ylab="disp",main="Manual")

>

> mtcars\_aov2<-aov(mtcars$disp~factor(mtcars$gear)\*factor(mtcars$am))

> summary(mtcars\_aov2)

Df Sum Sq Mean Sq F value Pr(>F)

factor(mtcars$gear) 2 280221 140110 20.695 3.03e-06 \*\*\*

factor(mtcars$am) 1 6399 6399 0.945 0.339

Residuals 28 189565 6770

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