```
h)

#h)

DW <- sum(diff(residuals(gdplmsqu))^2)/sum(residuals(gdplmsqu)^2)

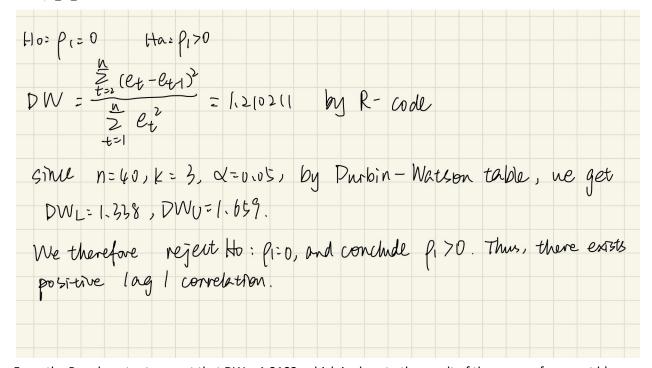
DW

> # h)

> DW <- sum(diff(residuals(gdplmsqu))^2)/sum(residuals(gdplmsqu)^2)

> DW

[1] 1.210211
```



i) From the R-code output, we get that DW = 1.2102, which is close to the result of the answer from part h). Furthermore, p-value is 0.00336, which is smaller than 0.05. Thus, we should reject null hypothesis and conclude that there exists positive lag 1 correlation, which is $\rho_1 > 0$, since the alternative hypothesis is true autocorrelation is greater than 0.

```
# i)
install.packages("Imtest")
library(Imtest)
dwtest (gdpImsqu)
```

Durbin-Watson test

```
data: gdplmsqu
DW = 1.2102, p-value = 0.00336
alternative hypothesis: true autocorrelation is greater than 0
```