## Panel Regression Model

install.packages("plm")

## Installing package into 'C:/Users/arora/AppData/Local/R/win-library/4.4'  
## (as 'lib' is unspecified)

## package 'plm' successfully unpacked and MD5 sums checked  
##   
## The downloaded binary packages are in  
## C:\Users\arora\AppData\Local\Temp\RtmpCOWpUB\downloaded\_packages

install.packages("lmtest")

## Installing package into 'C:/Users/arora/AppData/Local/R/win-library/4.4'  
## (as 'lib' is unspecified)

## package 'lmtest' successfully unpacked and MD5 sums checked

## Warning: cannot remove prior installation of package 'lmtest'

## Warning in file.copy(savedcopy, lib, recursive = TRUE): problem copying  
## C:\Users\arora\AppData\Local\R\win-library\4.4\00LOCK\lmtest\libs\x64\lmtest.dll  
## to C:\Users\arora\AppData\Local\R\win-library\4.4\lmtest\libs\x64\lmtest.dll:  
## Permission denied

## Warning: restored 'lmtest'

##   
## The downloaded binary packages are in  
## C:\Users\arora\AppData\Local\Temp\RtmpCOWpUB\downloaded\_packages

library(lmtest)

## Warning: package 'lmtest' was built under R version 4.4.3

## Loading required package: zoo

## Warning: package 'zoo' was built under R version 4.4.3

##   
## Attaching package: 'zoo'

## The following objects are masked from 'package:base':  
##   
## as.Date, as.Date.numeric

library(plm)

## Warning: package 'plm' was built under R version 4.4.3

dataset<-read.csv("C:\\Users\\arora\\Downloads\\finally.csv")  
dataset<-pdata.frame(dataset, index=c("District","Year"))

## Warning in pdata.frame(dataset, index = c("District", "Year")): duplicate couples (id-time) in resulting pdata.frame  
## to find out which, use, e.g., table(index(your\_pdataframe), useNA = "ifany")

#Handling duplicate values  
#dataset <- dataset[!duplicated(dataset[, c("Dist.Name", "Year")]), ]  
  
#Model building  
model<- plm(Total\_Loan\_.ST.MT.LT. ~ Total,  
 data = dataset,  
 index = c("District","Year"),  
 model = "within",  
 effect = "twoways")  
  
coeftest(model,vcov=vcovHC, type = "HC1")

##   
## t test of coefficients:  
##   
## Estimate Std. Error t value Pr(>|t|)   
## Total 49654.9 4751.6 10.45 < 2.2e-16 \*\*\*  
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1