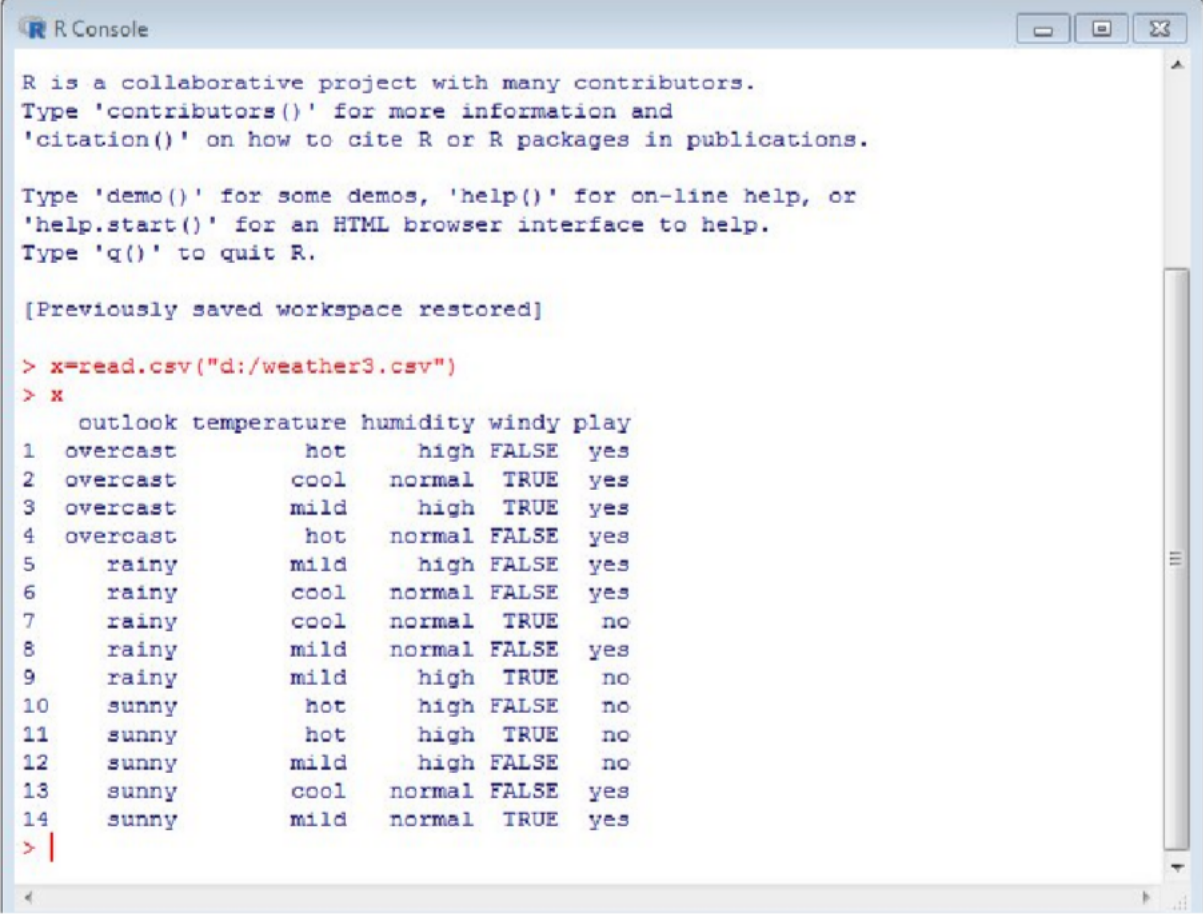
# PRACTICAL NO: 3

**Aim:** Demonstration of Logistics Regression. **Theory**: Explain Logistic Regression in detail. **Code:**

X<-read.csv("C:/Users/Admin/Documents/SampleStudentData.csv")

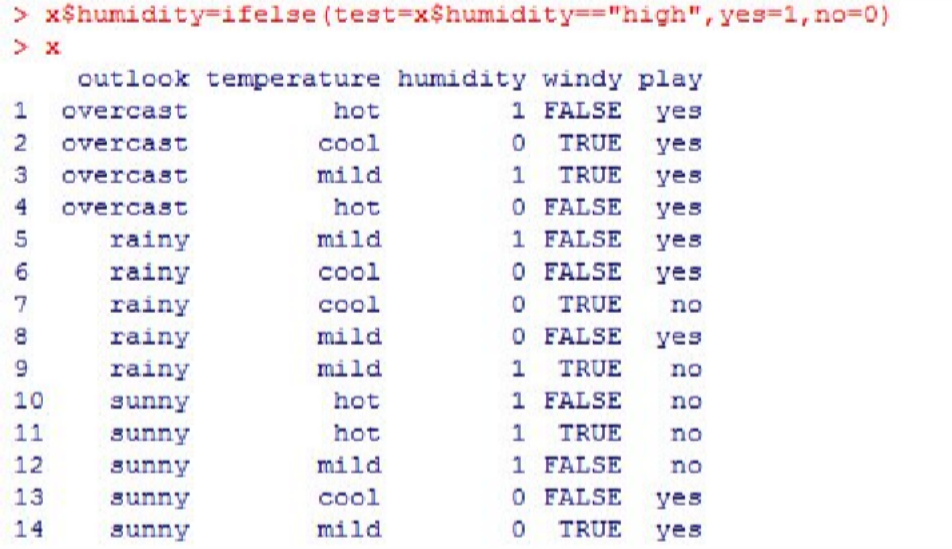
* X



#### PRINTING THE DATASET

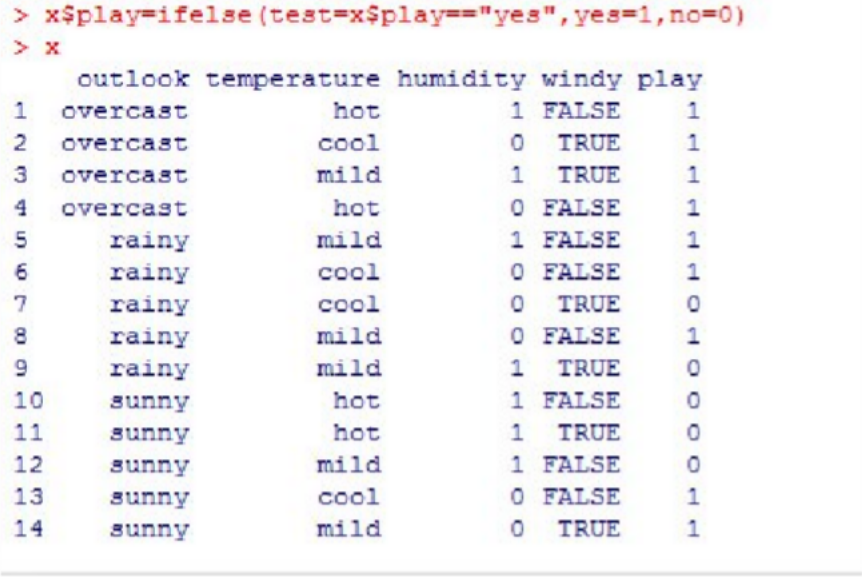
>x$humidity=ifelse(test=x$humidity=="high",yes=1,no=0)

>x



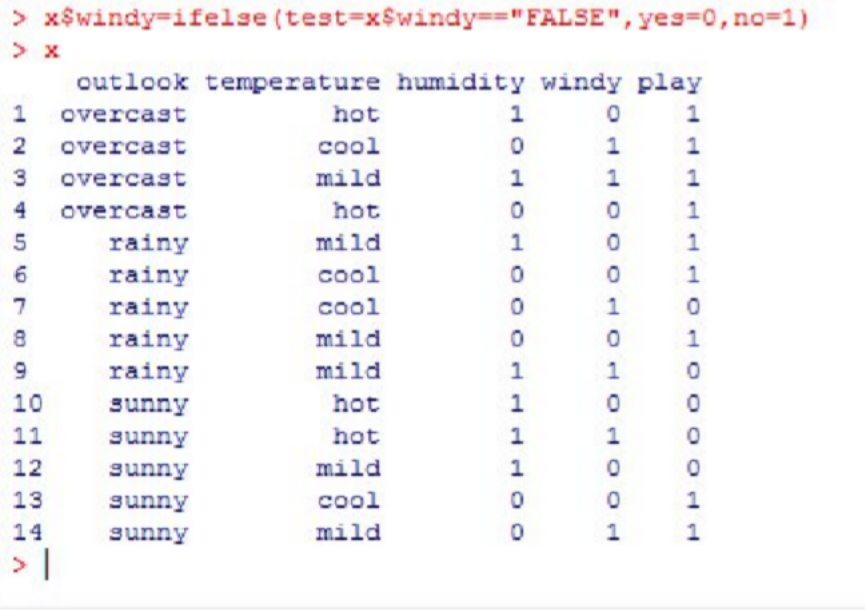
**>x$play=ifelse(test=x$play=="yes",yes=1,no=0)**

**>x**



### >x$windy=ifelse(test=x$windy=="FALSE",yes=0,no=1)

**>x**



#### PARTIONING DATASET

* s=sample(nrow(x),.7\*nrow(x))

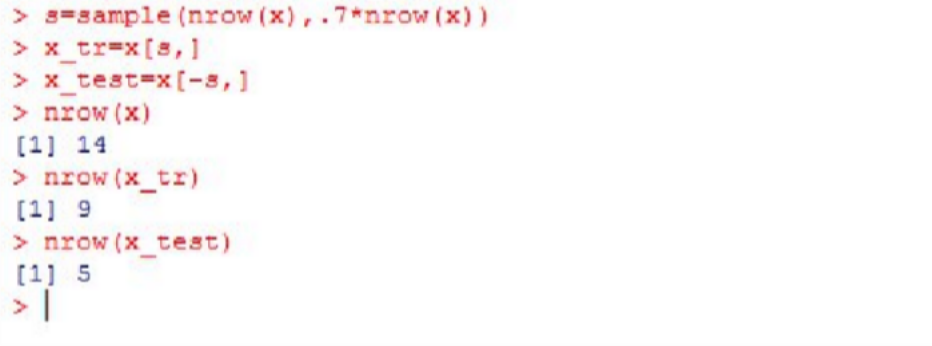
>x\_tr=x[s,]

>x\_test=x[-s,]

>nrow(x)

>nrow(x\_tr)

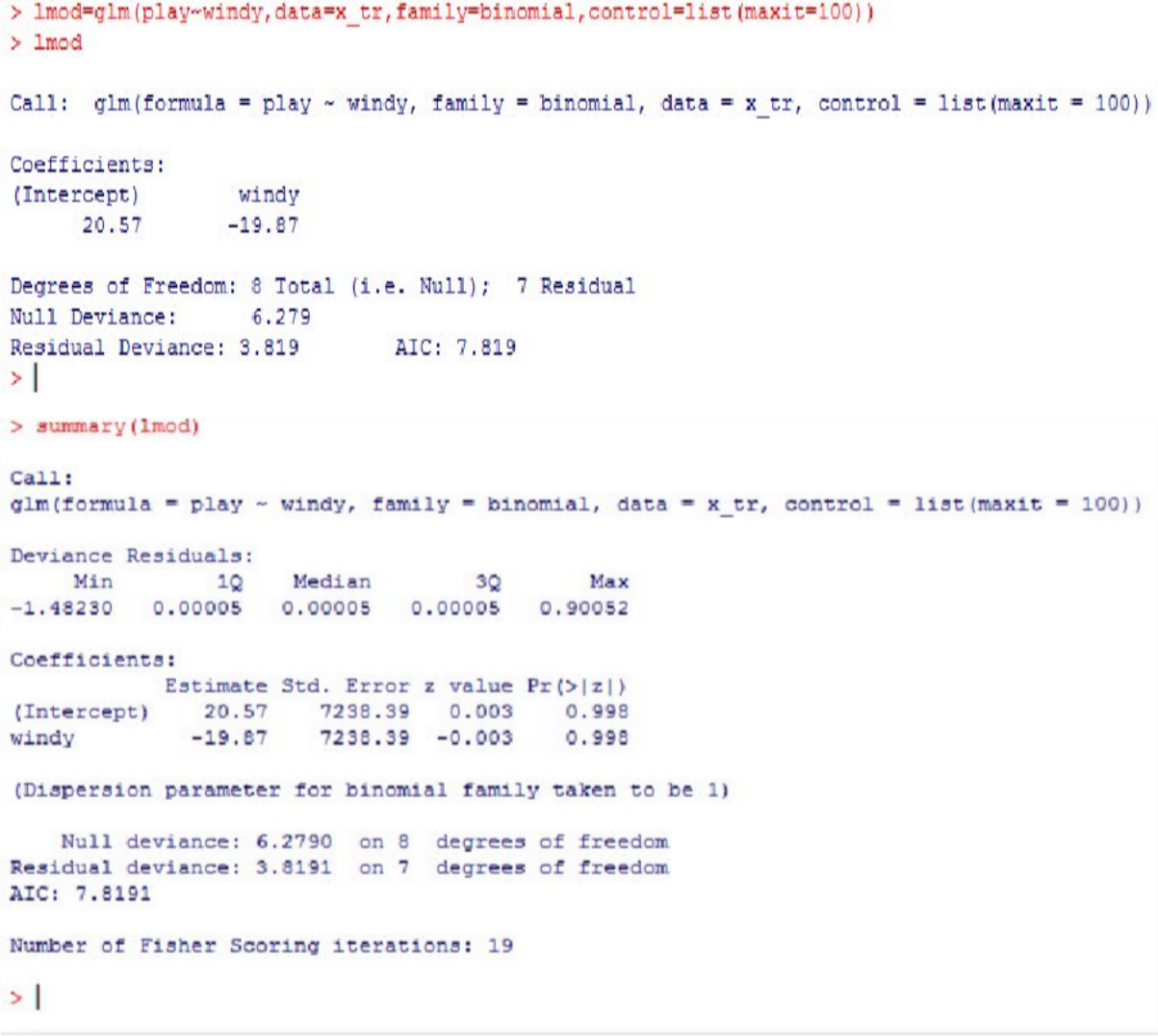
>nrow(x\_test)



#### DATA MODELING

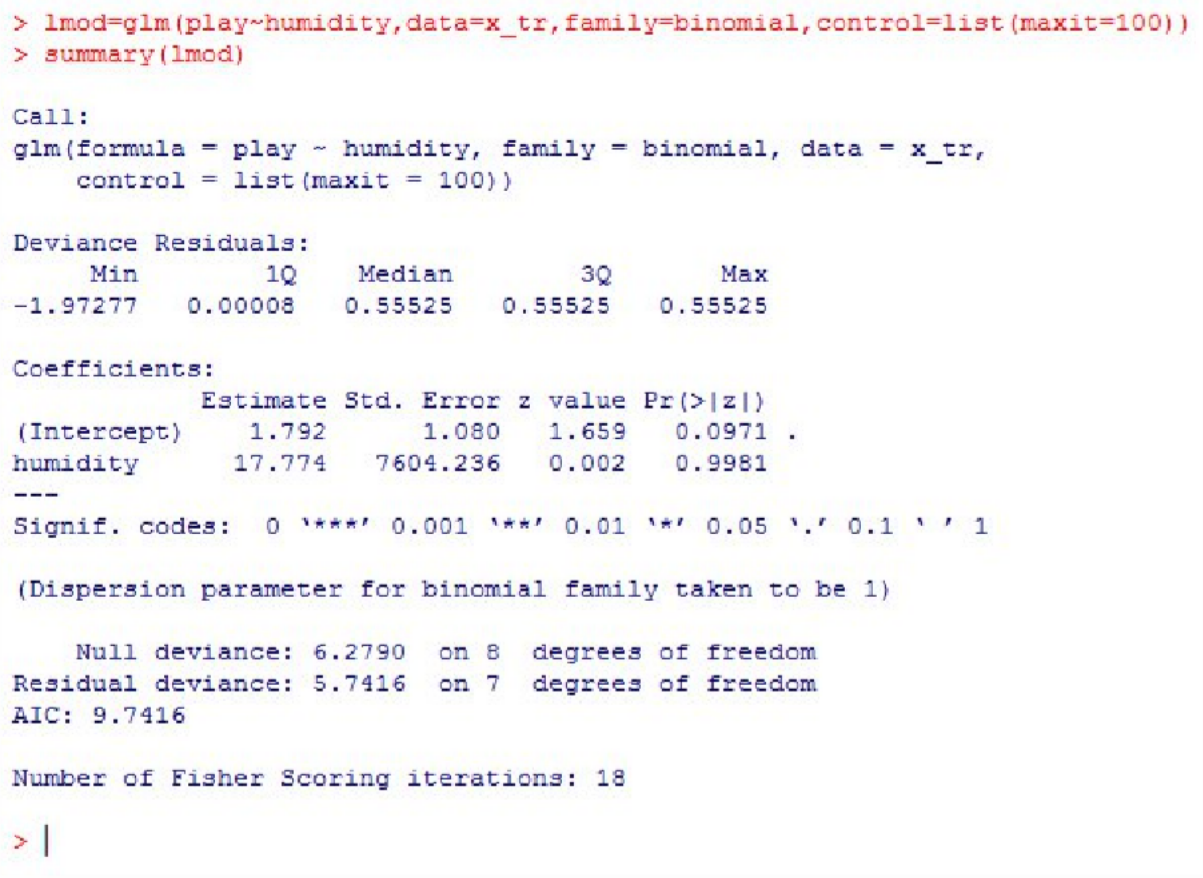
>lmod=glm(play~windy,data=x\_tr,family=binomial,control=list(maxit=100))

>lmod



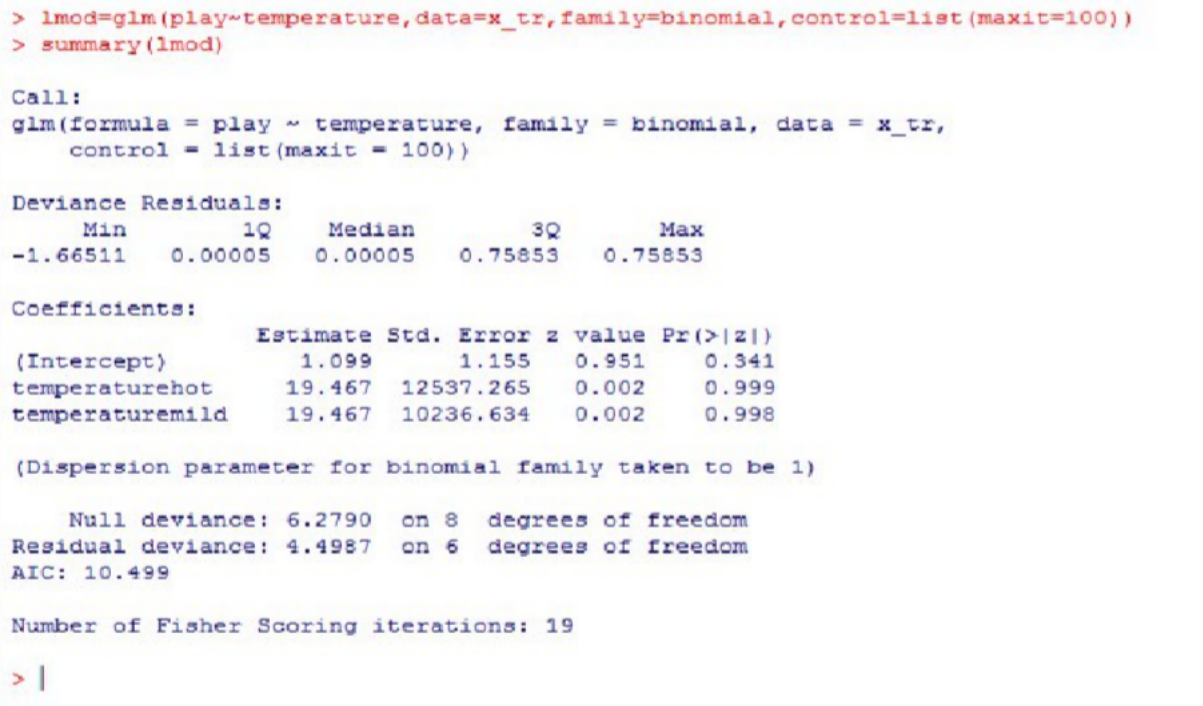
>lmod=glm(play~humidity,data=x\_tr,family=binomial,control=list(maxit=100))

>summary(lmod)



>lmod=glm(play~temperature,data=x\_tr,family=binomial,control=list(maxit=100))

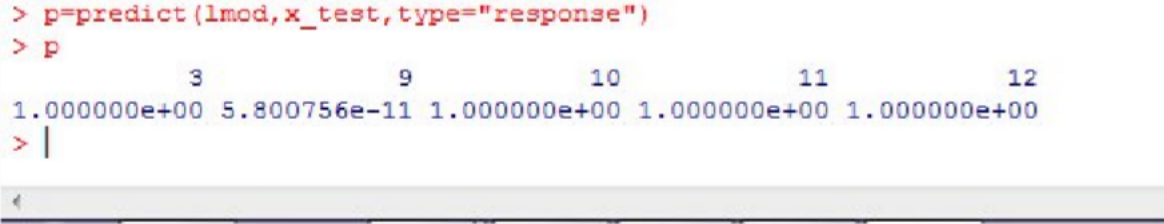
>summary(lmod)



### #PREDICTION:

* p=predict(lmod,x\_test,type="response")

>p

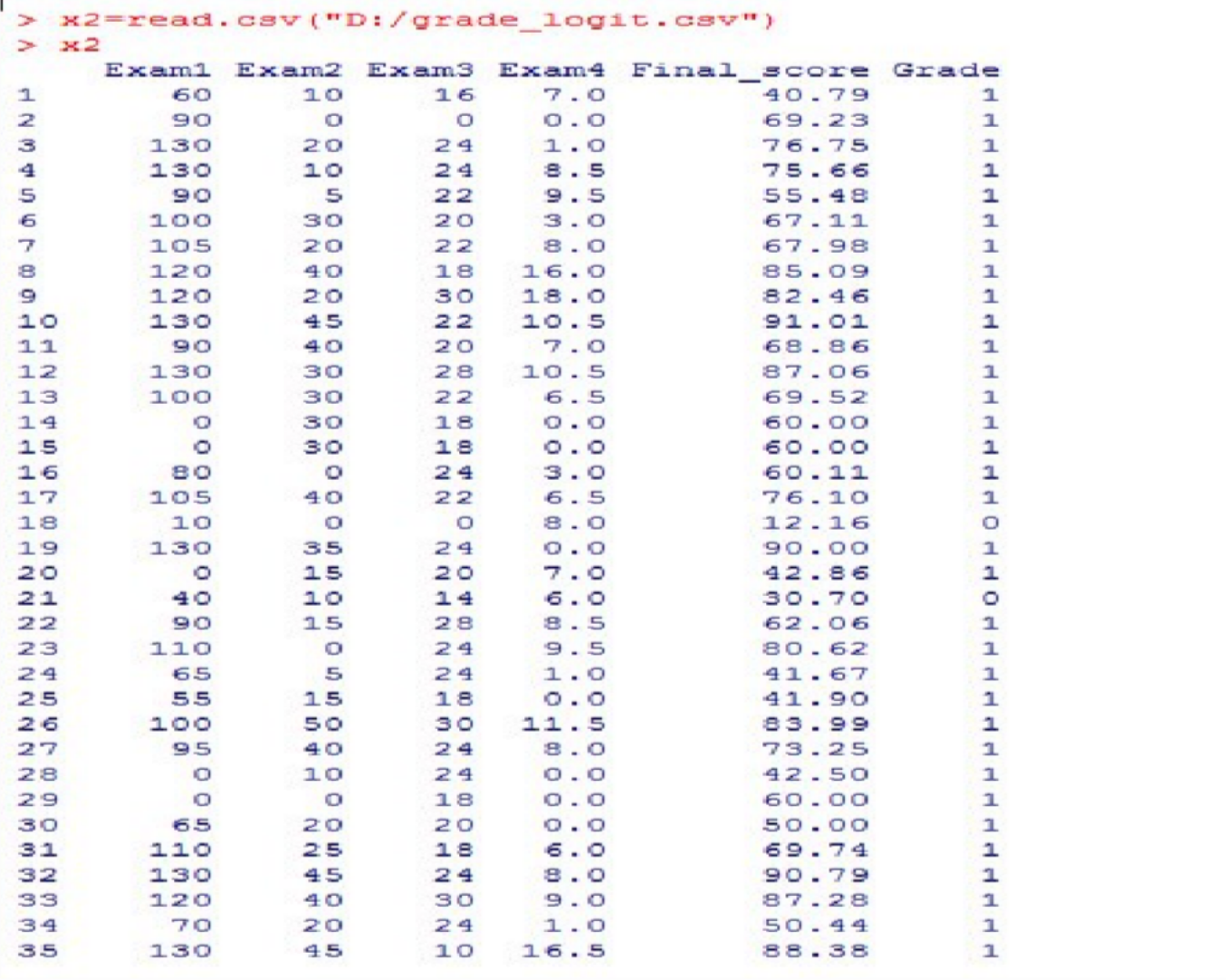


### (2) SECOND DATA SET:

**#IMPORT THE DATA**

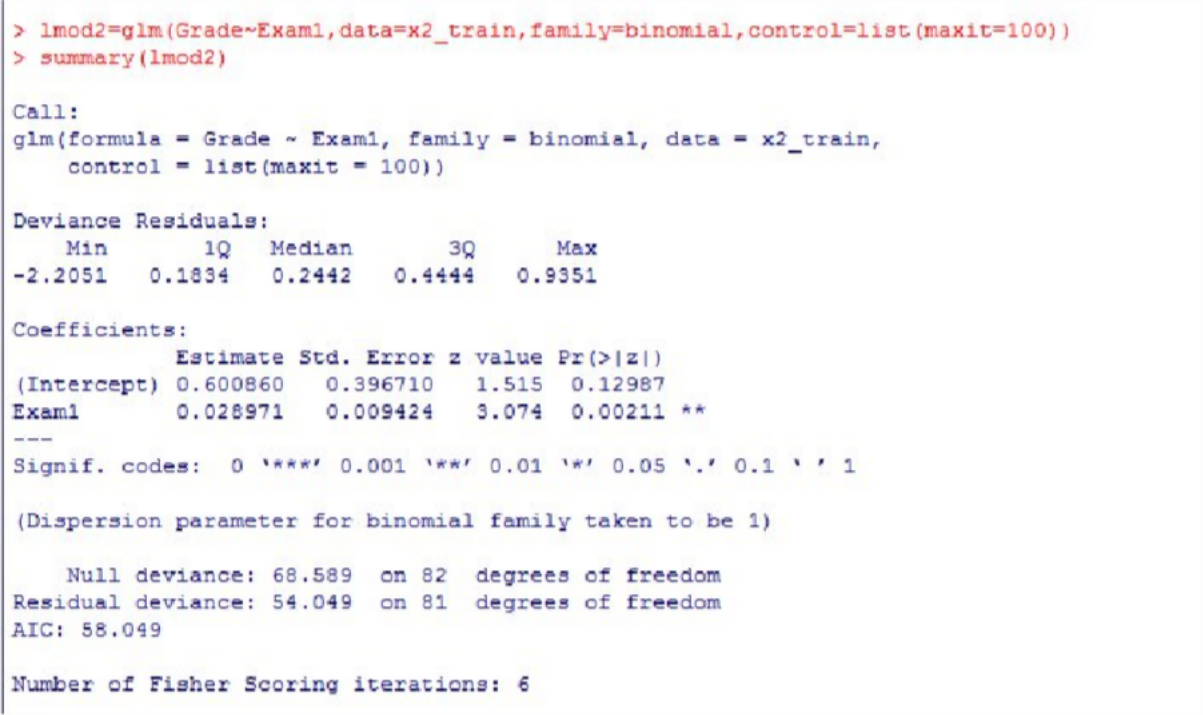
>x2=read.csv("D:/grade\_logit.csv")

>x2



* lmod2=glm(Grade~Exam1,data=x2\_train,family=binomial,control=list(maxit=100))

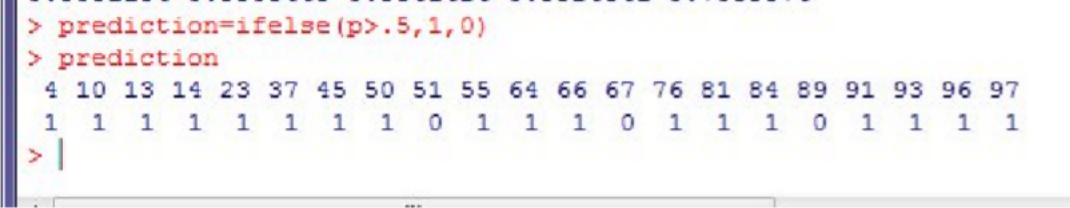
>summary(lmod2)



### Prediction data 1’s and 0’s form

>prediction=ifelse(p>.5,1,0)

>prediction

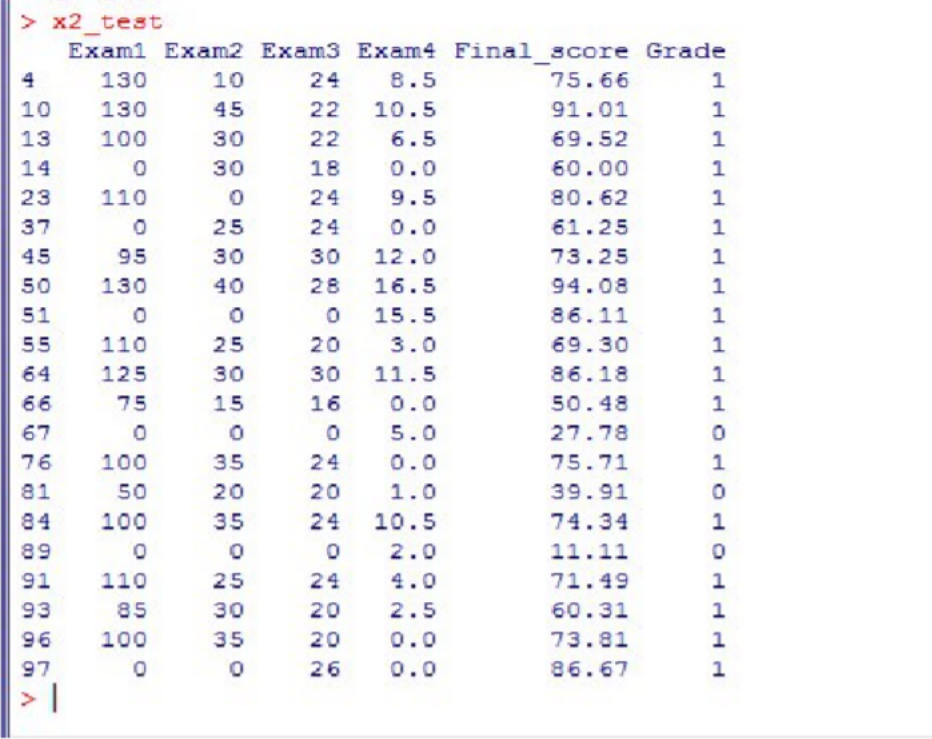


**PREDICTION MATRIX**

>table(x2\_test$Grade,prediction)



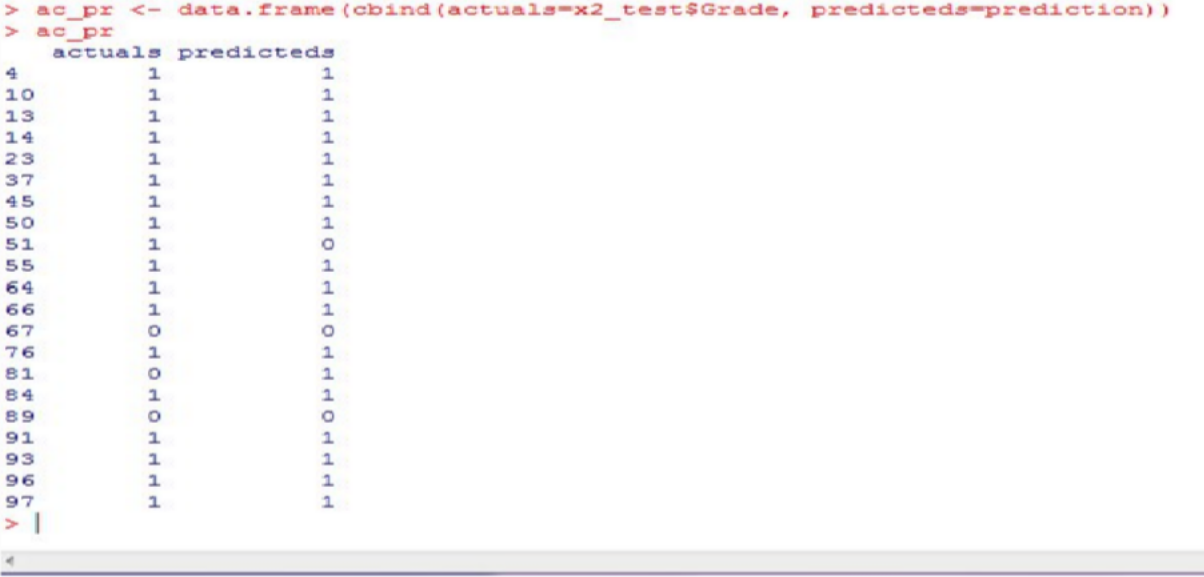
* x2\_test



### #actuals predicted

>ac\_pr<- data.frame(cbind(actuals=x2\_test$Grade, predicteds=prediction))

>ac\_pr



### >vif(lmod2) // variable influence factor

