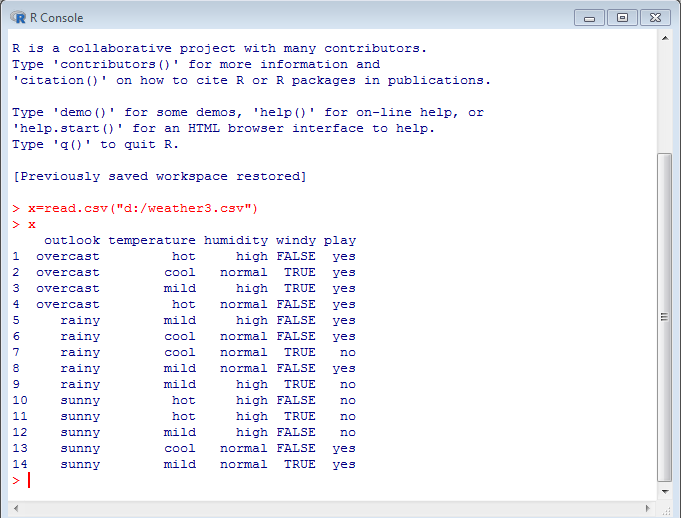
**Aim:** Demonstration of Logistics Regression.

**Theory**: Explain Logistic Regression in detail.

**Code:**

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

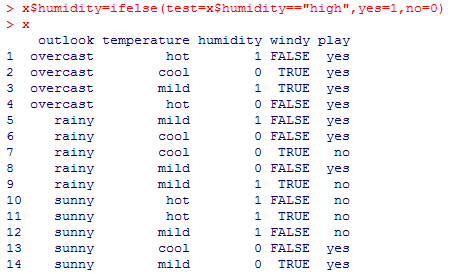
> X

****

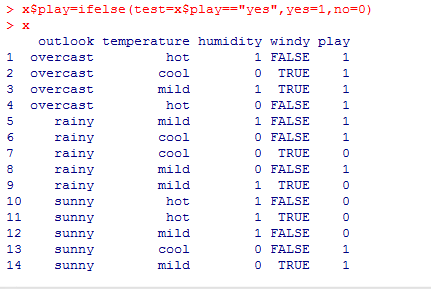
**PRINTING THE DATASET**

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

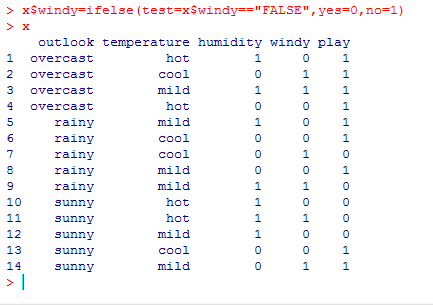
>x

**>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))

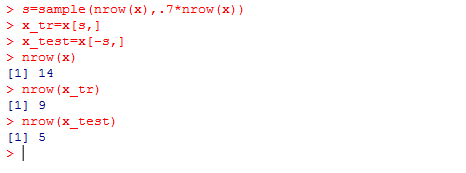
>x\_tr=x[s,]

>x\_test=x[-s,]

>nrow(x)

>nrow(x\_tr)

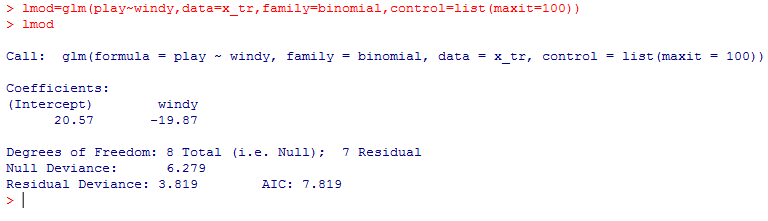
>nrow(x\_test)

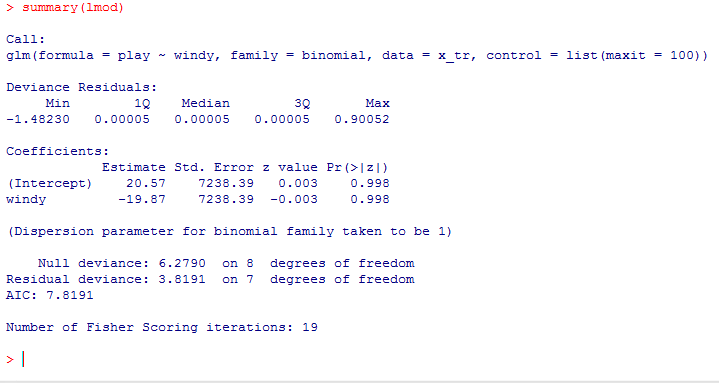
****

**DATA MODELING**

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

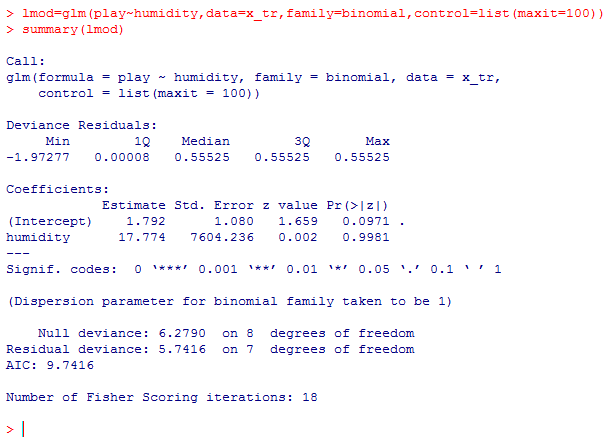
>lmod

****

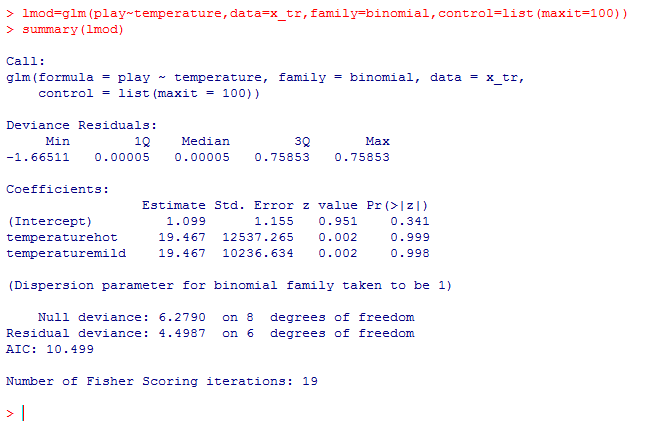
****

>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))

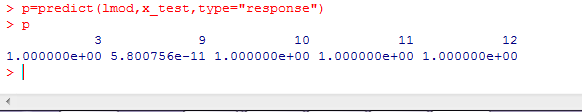
>summary(lmod)

****

**#PREDICTION:**

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

>p

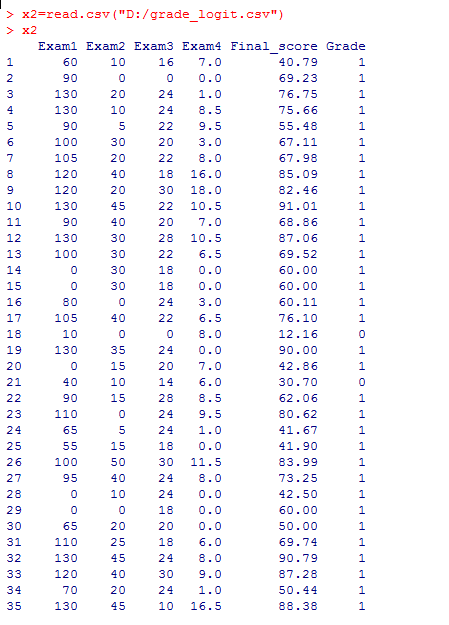
****

**(2) SECOND DATA SET:**

**#IMPORT THE DATA**

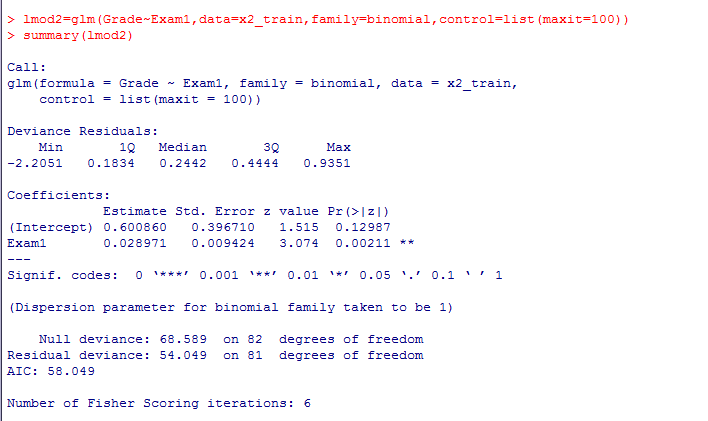
>x2=read.csv("D:/grade\_logit.csv")

>x2

****

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

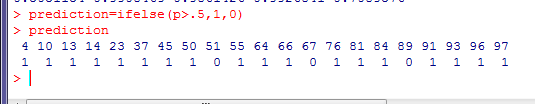
>summary(lmod2)

****

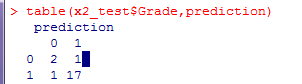
**Prediction data 1’s and 0’s form**

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

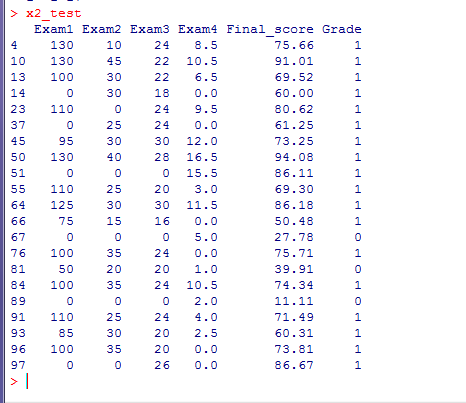
>prediction

** PREDICTION MATRIX**

>table(x2\_test$Grade,prediction)

****

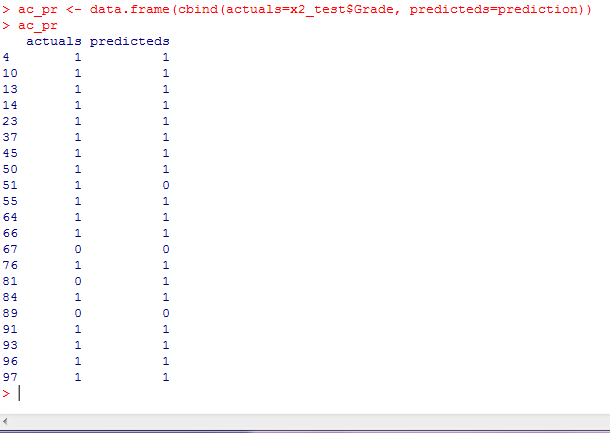
> x2\_test

****

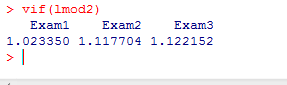
**#actuals predicted**

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

>ac\_pr

****

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

****