**R CODE FOR GENDER DATA**

attach(Gender\_data)

dim(Gender\_data)

names(Gender\_data)

describe(Gender\_data)

str(Gender\_data)

options(scipen=999)

###########LIBRARIES########################

library(psych)

library(DiscriMiner)

############EDA############################

table(Purchased)

table(Gender)

table(Purchased, Gender)

##########LINEAR PROBABILITY MODEL (LPM)#########################

LPM<-lm(Purchased~Age+ EstimatedSalary + Gender)

summary(LPM)

FITTED\_VALUES<-fitted(LPM)

describe(FITTED\_VALUES)

which.max(FITTED\_VALUES)

###################LOGIT MODEL#########

LOGITMODEL<-glm(Purchased~Age+EstimatedSalary+Gender,

family=binomial())

summary(LOGITMODEL)

logLik(LOGITMODEL)

PROBABILITY<-data.frame(fitted(LOGITMODEL))

describe(PROBABILITY)

LPM<-lm(Purchased~Age+ EstimatedSalary + Gender)

summary(LPM)

FITTED\_VALUES<-fitted(LPM)

describe(FITTED\_VALUES)

which.max(FITTED\_VALUES)

###################LOGIT MODEL#########

LOGITMODEL<-glm(Purchased~Age+EstimatedSalary+Gender,

family=binomial())

summary(LOGITMODEL)

logLik(LOGITMODEL)

PROBABILITY<-data.frame(fitted(LOGITMODEL))

describe(PROBABILITY)

##################CREATING A CONFUSION MATRIX ############

PREDICTED\_CLASS<-as.factor(ifelse(PROBABILITY>.50, "yes", "no"))

COMPARISON\_DATA<-data.frame(PREDICTED\_CLASS, Purchased)

CONFUSION\_MATRIX<-table(COMPARISON\_DATA)

CONFUSION\_MATRIX

###############LDA MODEL ###########################

library(DiscriMiner)

LDA\_MODEL<-linDA((Gender\_data) [,2:4],Purchased)

summary(LDA\_MODEL)

LDA\_MODEL$functions

LDA\_MODEL$scores

LDA\_MODEL$classification

LDA\_MODEL$confusion