Roll No.: 40023

Date:

**Aim:** To perform practical of Principal Component Analysis(PCA).

**Program Code:**

data\_iris <- iris[1:4]

cov\_data <- cov(data\_iris)

Eigen\_data <- eigen(cov\_data)

PCA\_data <- princomp(data\_iris,cor = "False")

Eigen\_data$values

PCA\_data$sdev^2

PCA\_data$loadings[,1:4]

Eigen\_data$vectors

summary(PCA\_data)

biplot(PCA\_data)

screeplot(PCA\_data,type = 'lines')

model2 = PCA\_data$loadings[,1]

model2\_scores <- as.matrix(data\_iris)%\*%model2

library(class)

install.packages("e1071")

library(e1071)

mod1 <- naiveBayes(iris[,1:4],iris[,5])

mod2 <- naiveBayes(model2\_scores,iris[,5])

table(predict(mod1,iris[,1:4]),iris[,5])

table(predict(mod2,model2\_scores),iris[,5])

**Conclusion:** Practical of Principal Component Analysis(PCA) has been executed successfully.