Practical 3:

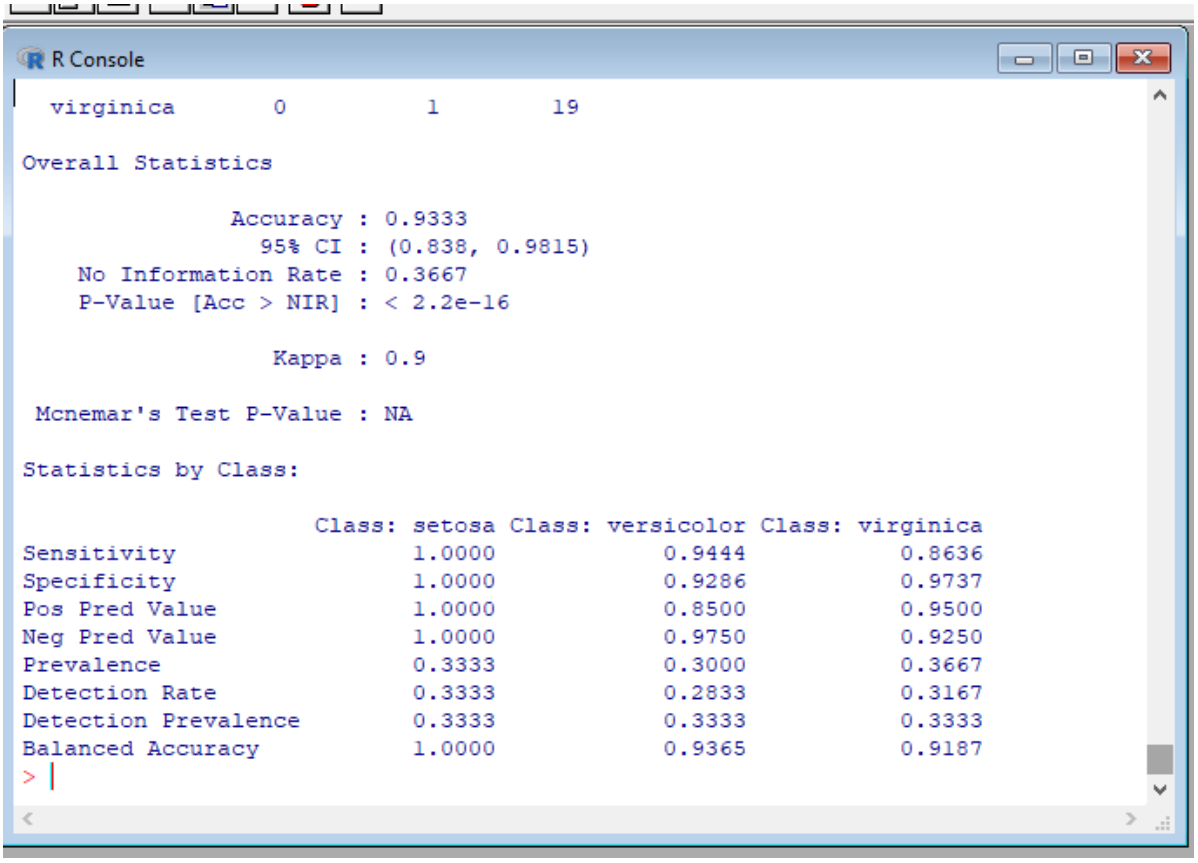
Aim: write program in R of Naive baye's theorem

Requirement:
R tool

Code:

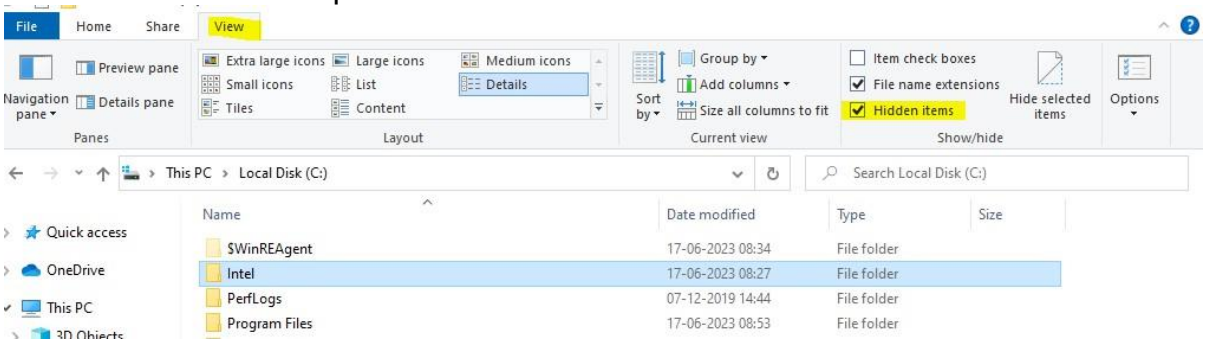
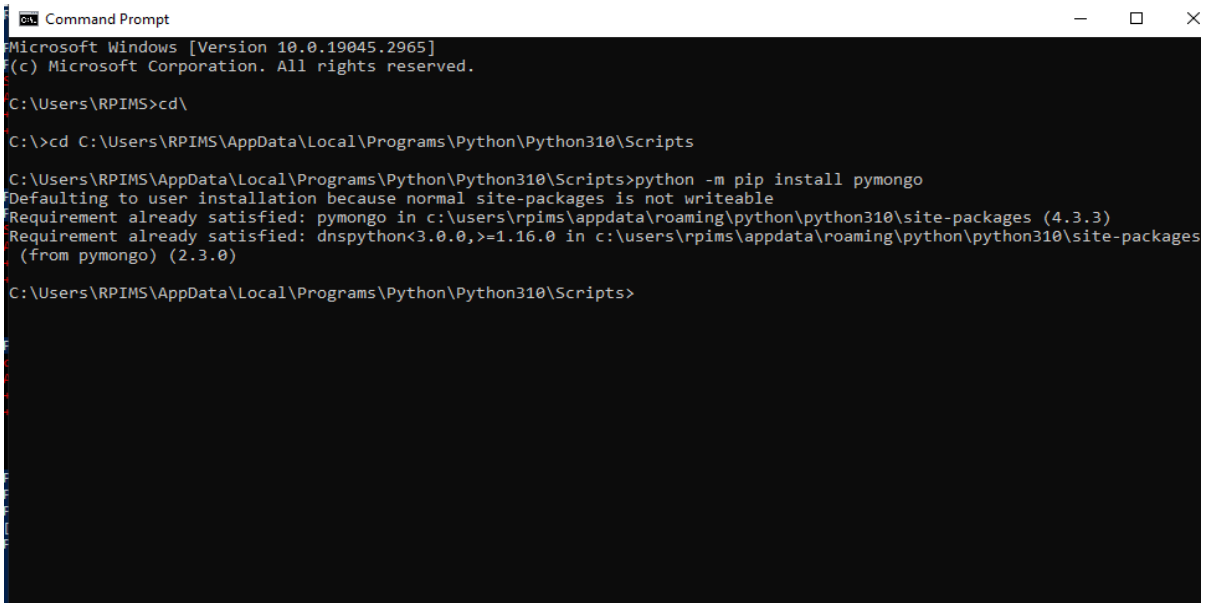
```
data(iris)

str(iris)


install packages("e1071")

install packages("caTools")

install packages("caret")


library(e1071)

library(caTools)

library(caret)


split <- sample.split(iris,SplitRatio=0.7)

train_c1 <-subset(iris,split=="TRUE")

test_c1 <- subset(iris,split == "FALSE")

train_scale <- scale(train_c1[, 1:4])

test_scale <- scale(test_c1[,1:4])


set.seed(120)

classifier_c1 <- naiveBayes(Species ~ ., data = train_c1)

classifier_c1


y_pred <- predict(classifier_c1, newdata= test_c1)

cm <- table(test_c1$Species, y_pred)

cm


confusionMatrix(cm)
```

Output:


R Console
virginica 0 1 19
Overall Statistics
Accuracy : 0.9333
95% CI : (0.838, 0.9815)
No Information Rate : 0.3667
P-Value [Acc > NIR] : < 2.2e-16
Kappa : 0.9
Mcnemar's Test P-Value : NA
Statistics by Class:
Class: setosa Class: versicolor Class: virginica
Sensitivity 1.0000 0.9444 0.8636
Specificity 1.0000 0.9286 0.9737
Pos Pred Value 1.0000 0.8500 0.9500
Neg Pred Value 1.0000 0.9750 0.9250
Prevalence 0.3333 0.3000 0.3667
Detection Rate 0.3333 0.2833 0.3167
Detection Prevalence 0.3333 0.3333 0.3333
Balanced Accuracy 1.0000 0.9365 0.9187
>

Install python package:

1. You will need to make the hidden folder visible: go to “C:” drive on top click on tab “view”
2. Select “hidden Items” option:



3. Go to the below path:
   C:\Users*Your Name*\AppData\Local\Programs\Python\Python36-32\Scripts
4. Set the below path in command prompt and then use the below command:
   python -m pip install pymongo