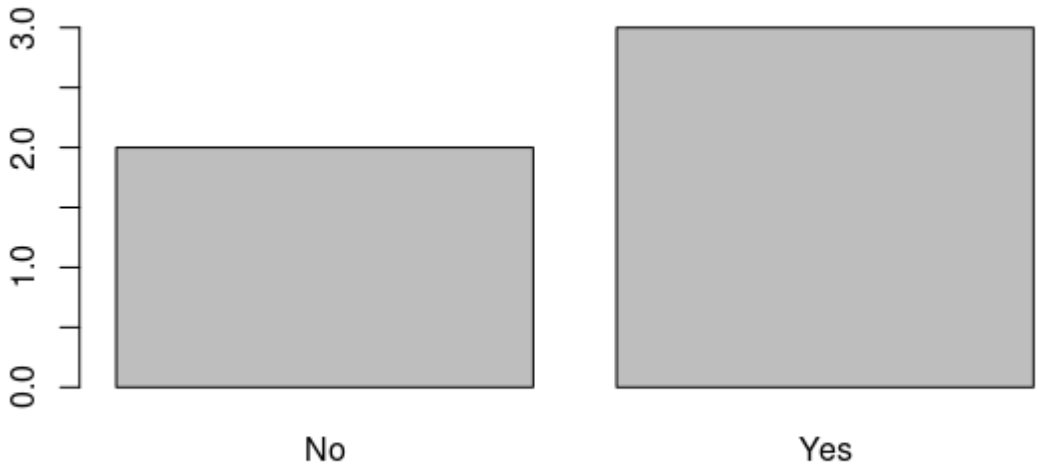
Tennis data set

```
setwd("/home/saivinayP/R/Lab_Exercise/LAB6")
d=read.csv("tennis.csv")
tindex = sort(sample(nrow(d), nrow(d)*.7))
traindb<-d[tindex,]
testdb<-d[-tindex,]
library(e1071)
NB<-naiveBayes(play~.,data=traindb)
print(NB)
predNB1<-predict(NB,testdb,type=c("class"))
table(testdb$play, predNB1)
plot(predNB1)
```

OUTPUT :

```
Naive Bayes Classifier for Discrete Predictors

Call:
naiveBayes.default(x = X, y = Y, laplace = laplace)

A-priori probabilities:
Y
       No       Yes
0.2222222 0.7777778

Conditional probabilities:
     day
Y            D1       D10       D11       D12       D13       D14        D2
D3
  No  0.5000000 0.0000000 0.0000000 0.0000000 0.0000000 0.5000000 0.0000000
0.0000000
  Yes 0.0000000 0.0000000 0.1428571 0.1428571 0.1428571 0.0000000 0.0000000
0.1428571
     day
Y            D4        D5        D6        D7        D8        D9
  No  0.0000000 0.0000000 0.0000000 0.0000000 0.0000000 0.0000000
  Yes 0.0000000 0.1428571 0.0000000 0.1428571 0.0000000 0.1428571

     outlook
Y      Overcast      Rain     Sunny
  No  0.0000000 0.5000000 0.5000000
  Yes 0.5714286 0.1428571 0.2857143

     temp
Y          Cool       Hot      Mild
  No  0.0000000 0.5000000 0.5000000
  Yes 0.4285714 0.2857143 0.2857143

     humidity
Y          High    Normal
  No  1.0000000 0.0000000
  Yes 0.2857143 0.7142857

     wind
```

```
Y        Strong      Weak
  No  0.5000000 0.5000000
  Yes 0.4285714 0.5714286

> predNB1<-predict(NB,testdb,type=c("class"))
> table(testdb$play, predNB1)
     predNB1
      No Yes
  No   2   1
  Yes  1   1
```



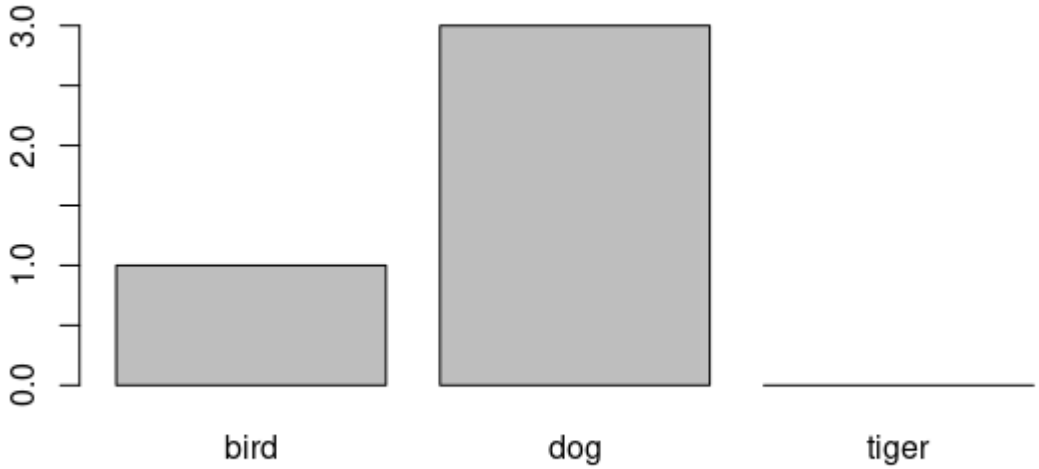
species data set

```
setwd("/home/saivinayP/R/LAb_Exercise/LAB6")
d=read.csv("s.csv")
tindex = sort(sample(nrow(d), nrow(d)*.7))
traindb<-d[tindex,]
testdb<-d[-tindex,]
library(e1071)
NB<-naiveBayes(class~.,data=traindb)
print(NB)
predNB1<-predict(NB,testdb,type=c("class"))
table(testdb$class,predNB1)
plot(predNB1)
```

OUTPUT:

```
Naive Bayes Classifier for Discrete Predictors

Call:
naiveBayes.default(x = X, y = Y, laplace = laplace)
```

```
A-priori probabilities:
Y
 bird   dog tiger
0.250 0.625 0.125

Conditional probabilities:
       wings
Y       no yes
  bird   0   1
  dog    1   0
  tiger  1   0

       height
Y       large medium small
  bird      0      0     1
  dog       0      1     0
  tiger     1      0     0

       color
Y       black green yash yellow
  bird    0.5   0.5  0.0    0.0
  dog     0.8   0.0  0.2    0.0
  tiger   0.0   0.0  1.0    0.0

       spots
Y        no yes
  bird  0.5 0.5
  dog   0.6 0.4
  tiger 0.0 1.0

> predNB1<-predict(NB,testdb,type=c("class"))
> table(testdb$class,predNB1)
       predNB1
        bird dog tiger
  bird     2   0     0
  dog      0   1     0
  tiger    0   0     1
> plot(predNB1)
```



diabetes data set

```
setwd("/home/saivinayP/R/LAb_Exercise/LAB6")
d=read.csv("diabetes.csv")
tindex = sort(sample(nrow(d), nrow(d)*.7))
traindb<-d[tindex,]
testdb<-d[-tindex,]
library(e1071)
NB<-naiveBayes(diabetic~.,data=traindb)
print(NB)
predNB1<-predict(NB,testdb,type=c("class"))
table(testdb$diabetic, predNB1)
plot(predNB1)
```

OUTPUT:

```
Naive Bayes Classifier for Discrete Predictors

Call:
naiveBayes.default(x = X, y = Y, laplace = laplace)

A-priori probabilities:
Y
       no       yes
0.5882353 0.4117647

Conditional probabilities:
     Gender
Y        Female      Male
  no  0.4000000 0.6000000
  yes 0.2857143 0.7142857
```

```
     BMI
Y       healthy over weight under weight
  no  0.6000000   0.2000000    0.2000000
  yes 0.0000000   0.7142857    0.2857143

     low
Y                    high       low    normal
  no  0.1000000 0.4000000 0.1000000 0.4000000
  yes 0.0000000 0.2857143 0.1428571 0.5714286

     BP
Y          high       low    normal
  no  0.1000000 0.3000000 0.6000000
  yes 0.7142857 0.1428571 0.1428571

> predNB1<-predict(NB,testdb,type=c("class"))
> table(testdb$diabetic, predNB1)
     predNB1
      no yes
  no   3   1
  yes  0   4
> plot(predNB1)
```