ASSIGNEMENT NO. 3

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>install.packages('e1071', dependencies = TRUE)

also installing the dependencies ‘mlbench’, ‘randomForest’, ‘SparseM’, ‘xtable’

trying URL 'http://cran.rstudio.com/bin/windows/contrib/3.2/mlbench\_2.1-1.zip'

Content type 'application/zip' length 1032874 bytes (1008 KB)

downloaded 1008 KB

trying URL 'http://cran.rstudio.com/bin/windows/contrib/3.2/randomForest\_4.6-10.zip'

Content type 'application/zip' length 176363 bytes (172 KB)

downloaded 172 KB

trying URL 'http://cran.rstudio.com/bin/windows/contrib/3.2/SparseM\_1.6.zip'

Content type 'application/zip' length 782126 bytes (763 KB)

downloaded 763 KB

trying URL 'http://cran.rstudio.com/bin/windows/contrib/3.2/xtable\_1.7-4.zip'

Content type 'application/zip' length 382537 bytes (373 KB)

downloaded 373 KB

trying URL 'http://cran.rstudio.com/bin/windows/contrib/3.2/e1071\_1.6-6.zip'

Content type 'application/zip' length 815024 bytes (795 KB)

downloaded 795 KB

package ‘mlbench’ successfully unpacked and MD5 sums checked

package ‘randomForest’ successfully unpacked and MD5 sums checked

package ‘SparseM’ successfully unpacked and MD5 sums checked

package ‘xtable’ successfully unpacked and MD5 sums checked

package ‘e1071’ successfully unpacked and MD5 sums checked

The downloaded binary packages are in

C:\Documents and Settings\Administrator\Local Settings\Temp\RtmpUVd451\downloaded\_packages

>library(e1071)

> pairs(iris[1:4], main = "Iris Data (red=setosa,green=versicolor,blue=virginica)",pch = 21, bg = c("red", "green3", "blue")[unclass(iris$Species)])

>data(iris)

>summary(iris)

Sepal.LengthSepal.WidthPetal.LengthPetal.Width Species

Min.:4.300 Min. :2.000 Min. :1.000 Min. :0.100setosa :50

1st Qu.:5.100 1st Qu.:2.800 1st Qu.:1.600 1st Qu.:0.300 versicolor:50

Median :5.800 Median :3.000 Median :4.350 Median :1.300 virginica :50

Mean :5.843 Mean :3.057 Mean :3.758 Mean :1.199

3rd Qu.:6.400 3rd Qu.:3.300 3rd Qu.:5.100 3rd Qu.:1.800

Max. :7.900 Max. :4.400 Max. :6.900 Max. :2.500

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

>table(predict(classifier, iris[,-5]), iris[,5])

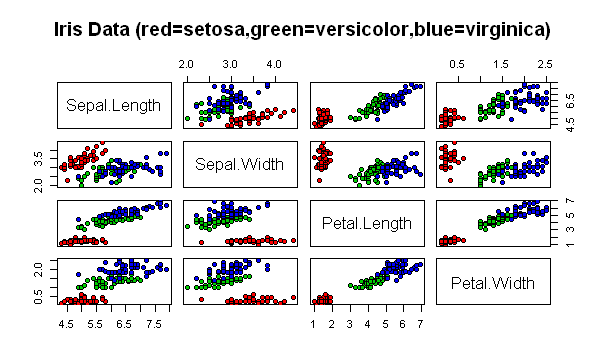
setosaversicolorvirginica

setosa 50 0 0

versicolor 0 47 3

virginica 0 3 47

**Output:**



**K-Means Nearest neighbor classifier**

>knn(train, test, cl, k = 1, l = 0, prob = FALSE, use.all = TRUE)

[1] sssssssssssssssssssssssss c cc

[29] ccccc v c ccccccccccccccc v v c v vv

[57] vv c v vvv c v vvvvvvvvvv

Levels: c s v

>train <- rbind(iris3[1:25,,1], iris3[1:25,,2], iris3[1:25,,3])

>test <- rbind(iris3[26:50,,1], iris3[26:50,,2], iris3[26:50,,3])

>cl<- factor(c(rep("s",25), rep("c",25), rep("v",25)))

>knn(train, test, cl, k = 3, prob=TRUE)

[1] sssssssssssssssssssssssss c c v

[29] ccccc v c ccccccccccccccc v c c v vv

[57] vv c v vvv c v vvvvvvvvvv

attr(,"prob")

[1] 1.0000000 1.0000000 1.0000000 1.0000000 1.0000000

[6] 1.0000000 1.0000000 1.0000000 1.0000000 1.0000000

[11] 1.0000000 1.0000000 1.0000000 1.0000000 1.0000000

[16] 1.0000000 1.0000000 1.0000000 1.0000000 1.0000000

[21] 1.0000000 1.0000000 1.0000000 1.0000000 1.0000000

[26] 1.0000000 1.0000000 0.6666667 1.0000000 1.0000000

[31] 1.0000000 1.0000000 1.0000000 0.6666667 1.0000000

[36] 1.0000000 1.0000000 1.0000000 1.0000000 1.0000000

[41] 1.0000000 1.0000000 1.0000000 1.0000000 1.0000000

[46] 1.0000000 1.0000000 1.0000000 1.0000000 1.0000000

[51] 1.0000000 0.6666667 0.7500000 1.0000000 1.0000000

[56] 1.0000000 1.0000000 1.0000000 0.5000000 1.0000000

[61] 1.0000000 1.0000000 1.0000000 0.6666667 1.0000000

[66] 1.0000000 1.0000000 1.0000000 1.0000000 1.0000000

[71] 1.0000000 0.6666667 1.0000000 1.0000000 0.6666667

Levels: c s v

>attributes(.Last.value)

$levels

[1] "c" "s" "v"

$class

[1] "factor"

$prob

[1] 1.0000000 1.0000000 1.0000000 1.0000000 1.0000000

[6] 1.0000000 1.0000000 1.0000000 1.0000000 1.0000000

[11] 1.0000000 1.0000000 1.0000000 1.0000000 1.0000000

[16] 1.0000000 1.0000000 1.0000000 1.0000000 1.0000000

[21] 1.0000000 1.0000000 1.0000000 1.0000000 1.0000000

[26] 1.0000000 1.0000000 0.6666667 1.0000000 1.0000000

[31] 1.0000000 1.0000000 1.0000000 0.6666667 1.0000000

[36] 1.0000000 1.0000000 1.0000000 1.0000000 1.0000000

[41] 1.0000000 1.0000000 1.0000000 1.0000000 1.0000000

[46] 1.0000000 1.0000000 1.0000000 1.0000000 1.0000000

[51] 1.0000000 0.6666667 0.7500000 1.0000000 1.0000000

[56] 1.0000000 1.0000000 1.0000000 0.5000000 1.0000000

[61] 1.0000000 1.0000000 1.0000000 0.6666667 1.0000000

[66] 1.0000000 1.0000000 1.0000000 1.0000000 1.0000000

[71] 1.0000000 0.6666667 1.0000000 1.0000000 0.6666667