

HW_09

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```
#####  
# Company      : Stevens  
# Project      : HW_09  
# Purpose      : SVM  
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# Id           : 10459151  
# Date         : 04/25/2022  
  
## Delete all the objects from your R- environment.  
#####  
  
rm(list = ls())  
  
dataSet<-read.csv("D:/SEM 3/CS 513/HW_09/wisc_bc_ContinuousVar.csv",na.strings = '?')  
  
#deleting the first row  
dataset1 = subset(dataSet, select = -c(id) )  
  
#Factorising the diagnosis column  
dataset1$diagnosis <- factor(dataset1$diagnosis, levels = c('M','B'),labels = c(1,2))  
  
#Splitting the dataet into training and testing  
index<-sort(sample(nrow(dataSet),as.integer(.70*nrow(dataSet))))  
training<-dataset1[index,]  
testing<-dataset1[-index,]  
  
#Perfroming SVM  
library(e1071)  
svm.model <- svm( diagnosis~ ., data =training )  
svm.pred <- predict(svm.model, testing )  
  
#Confusion matrix  
conf_matrix <- table(predict_svm=svm.pred,class=testing$diagnosis)  
print(conf_matrix)
```

```
##           class  
## predict_svm  1   2  
##           1  63   3  
##           2   2 103
```

```
#Accuracy  
accuracy <- function(x){sum(diag(x)/(sum(rowSums(x)))) * 100}  
accuracy(conf_matrix)
```

```
## [1] 97.07602
```