hw9_Utsav_Italiya_10475248

Comments: reading the files and loading the data

```
rm(list = ls())
library(e1071)

df <-
read.csv("F:/Sem1/CS513/lecture9/wisc_bc_ContinuousVar.csv",header=TRUE,
sep=",")
df <- subset(df, select = -c(id))
df$diagnosis<-factor(df$diagnosis,  levels = c('M','B'),labels = c(1,2))
View(df)
```

Comments: training and testing datasets

```
#70% training and 30% testing data
idx<-sort(sample(nrow(df),as.integer(.70*nrow(df))))
training<-df[idx,]
testing<-df[-idx,]
```

Comments: performing svm model and finding accuracy

```
#training SVM model
svm_model <- svm( diagnosis~ ., data = training  )
svm_prediction <- predict(svm_model,  testing )

#confusion matrix and accuracy
confusion_matrix <-table(predict_svm = svm_prediction, class =
testing$diagnosis)
confusion_matrix

##            class
## predict_svm   1   2
##           1  64   2
##           2   1 104

accuracy <- function(x){sum(diag(x)/(sum(rowSums(x)))) * 100}
accuracy(confusion_matrix)

## [1] 98.24561
```