

```
setwd("C:\\Users\\DELL\\Desktop\\DS\\DataScience_2019501097\\Data Mining\\Exam Solutions\\Final exam\\Final exam") getwd()
```

```
lensdata=read.csv("lenses.data.csv",header=FALSE,col.names = c("index","age","spectacle_prescription","astigmatic","tear_production_rate","Class")) lensdata$index <-  
NULL library(rpart) y <-as.factor(lensdata[,5]) x <-lensdata[,1:4] models<-rpart(y~.,x,parms=list(split='information'), control = rpart.control(minsplit = 0,minbucket =  
0,cp=-1,maxcompete = 0,maxsurrogate = 0,usesurrogate = 0,xval=0,maxdepth = 5)) install.packages("rpart.plot") library(rpart.plot) rpart.plot(models)
```

## information gain

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```
gain <- sum(y==predict(models,x,type="class"))/length(y) gain
```

## misclassification error rate

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```
error <- 1-sum(y==predict(models,x,type="class"))/length(y) error
```