```
##Prepare Dataset
#Load packages
library(mlbench)
library(caret)
#Load dataset
data("PimaIndiansDiabetes")

##Tain models
#Prepare training scheme
trainControl=trainControl(method="repeatedcv", number=10, repeats=3)
#CART
library(rpart)
set.seed(7)
fit.cart=train(diabetes~., data=PimaIndiansDiabetes, method="rpart",
trControl=trainControl)
#LDA
library(MASS)
set.seed(7)
fit.lda=train(diabetes~., data=PimaIndiansDiabetes, method="lda",
trControl=trainControl)
#SVM
library(e1071)
library(kernlab)
set.seed(7)
fit.svm=train(diabetes~., data=PimaIndiansDiabetes,
method="svmRadial", trControl=trainControl)
#KNN
set.seed(7)
fit.knn=train(diabetes~., data=PimaIndiansDiabetes, method="knn",
trControl=trainControl)
#Random Forest
library(randomForest)
fit.rf=train(diabetes~., data=PimaIndiansDiabetes, method="rf",
trControl=trainControl)
#Collect resamples
results=resamples(list(CART=fit.cart, LDA=fit.lda, SVM=fit.svm,
KNN=fit.knn, RF=fit.rf))

##Compare models
#Summarize differences between models
summary(results)
#Box and Whisker plots
scales=list(x=list(relation="free"), y=list(relation="free"))
bwplot(results, scales=scales)
#Density plots of accuracy
scales=list(x=list(relation="free",y=list(relation="free")))
densityplot(results, scales=scales, pch="|")
#Dot plots
scales=list(x=list(relation="free",y=list(relation="free")))
dotplot(results, scales=scales)
```

```
#Parallel Plots
parallelplot(results)
#Pairwise Scaterplot Matrix
splom(results)
#Pairwise xyPlots
xyplot(results, models=c("LDA","SVM"))
#Difference in model predictions
diffs=diff(results)
#Summarize p-values for pairwise comparisons
summary(diffs)
```