**Machine Learning Lab Experiment - 4**

**Perform Multiclass Classification using Support Vector Machines (SVM)**

**Code:**

data(iris)

attach(iris)

## classification mode

# default with factor response:

model <- svm(Species ~ ., data = iris)

# alternatively the traditional interface:

x <- subset(iris, select = -Species)

y <- Species

model <- svm(x, y)

print(model)

summary(model)

# test with train data

pred <- predict(model, x)

# (same as:)

pred <- fitted(model)

# Check accuracy:

table(pred, y)

# compute decision values and probabilities:

pred <- predict(model, x, decision.values = TRUE)

attr(pred, "decision.values")[1:4,]

# visualize (classes by color, SV by crosses):

plot(cmdscale(dist(iris[,-5])),

col = as.integer(iris[,5]),

pch = c("o","+")[1:150 %in% model$index + 1])

**Output**

