**COMPUTER VISION**

**ASSIGNMENT NO: -6**

**Name :-** Samyak Padwekar

**Div:**-J

**Roll NO:-03**

Develop an algorithm for SVM classifier

**MATLAB CODE:-**

%%

% Load Fisher's iris data set. Remove the sepal lengths and widths, and all

% observed setosa irises.

load fisheriris

inds = ~strcmp(species,'setosa');

X = meas(inds,3:4);

y = species(inds);

%%

% Train an SVM classifier using the processed data set.

SVMModel = fitcsvm(X,y)

%%

classOrder = SVMModel.ClassNames

%%

% The first class (|'versicolor'|) is the negative class, and the second

% (|'virginica'|) is the positive class. You can change the class order

% during training by using the |'ClassNames'| name-value pair argument.

%%

% Plot a scatter diagram of the data and circle the support vectors.

sv = SVMModel.SupportVectors;

figure

gscatter(X(:,1),X(:,2),y)

hold on

plot(sv(:,1),sv(:,2),'ko','MarkerSize',10)

legend('versicolor','virginica','Support Vector')

hold off

%%

% The support vectors are observations that occur on or beyond their

% estimated class boundaries.

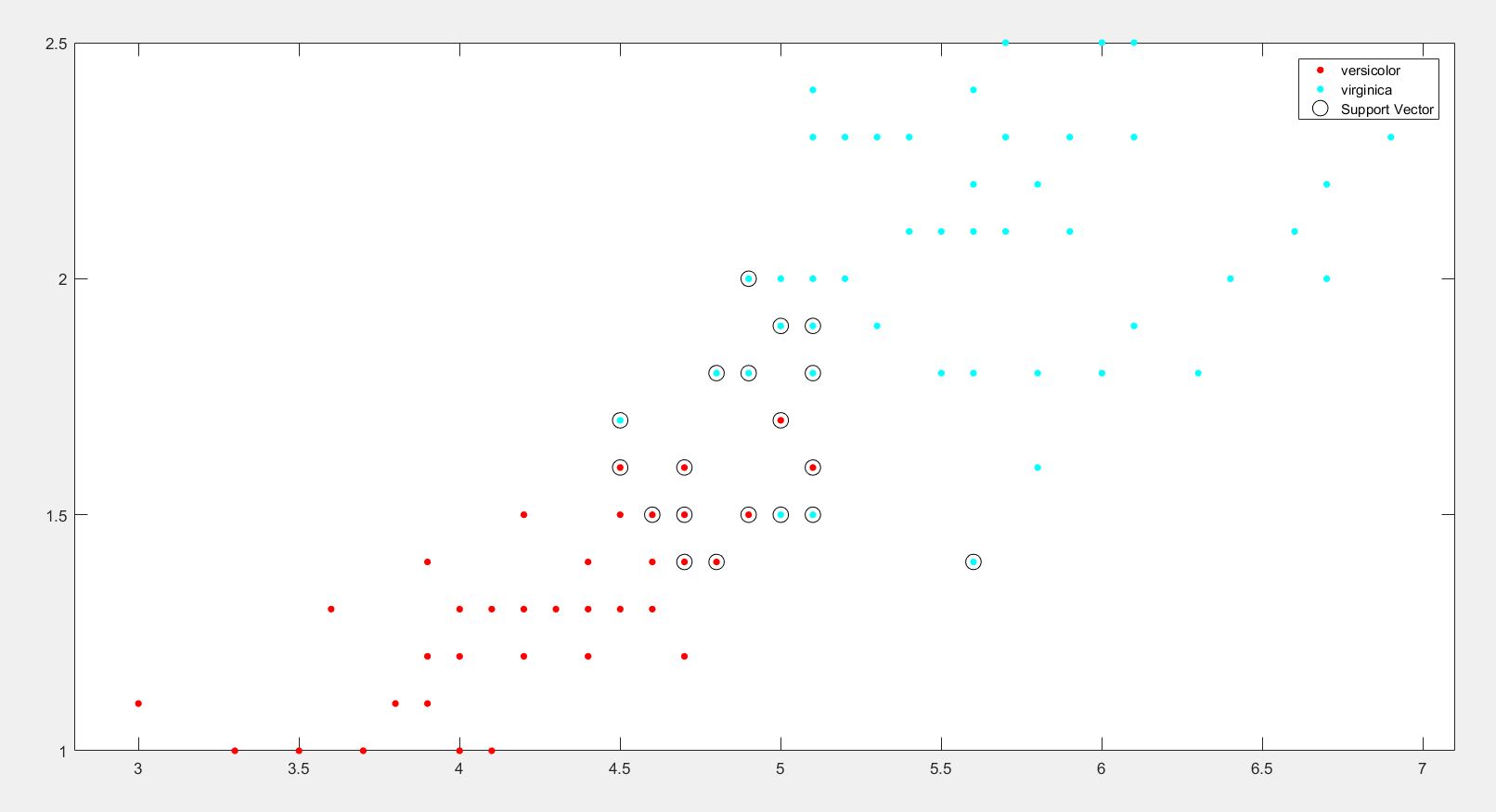
%%

% You can adjust the boundaries (and therefore the number of support

% vectors) by setting a box constraint during training using the

% |'BoxConstraint'| name-value pair argument.

**RESULT:**

****