Practical no.4

**Aim:** Implement SVM classifier (Iris Dataset)

# Theory

SVM, or Support Vector Machine, is a popular supervised learning algorithm used for classification and regression tasks. In SVM classification, the algorithm aims to find the optimal hyper plane that separates the different classes in the input data with the maximum margin.

# Material

* sklearn

# Program

from sklearn.datasets import load\_iris

from sklearn.model\_selection import train\_test\_split from sklearn.svm import SVC

from sklearn.metrics import accuracy\_score # Load the Iris dataset

iris = load\_iris()

# Split the dataset into training and testing sets

X\_train, X\_test, y\_train, y\_test = train\_test\_split(iris.data, iris.target,test\_size=0.2, random\_state=42)

# Create an instance of the SVM classifier

svm = SVC(kernel='linear')

# Fit the model to the training data svm.fit(X\_train, y\_train)

# Make predictions on the testing data y\_pred = svm.predict(X\_test)

# Calculate the accuracy of the model accuracy = accuracy\_score(y\_test, y\_pred) print("Accuracy:", accuracy)

# Output

SVC(kernel='linear')

