

sl-support-vector-mechanism-1

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```
[1]: 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
```

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##Project Title : Using support vector mechanism algorithm of supervised machine learning, predict iris.csv dataset to find out species will be same or different

###problem statement: A American based botanical garden grow iris flower in their lab but using bio technology in a single tree different type of variety flower is grown as data science engineer find out how much accuracy is there all categories contain same species.

##Task1: preprocess the data in sklearn library ##Task2:Load the data using sklearn model selection default argument ##Task3: On the basis of your dataset train test and split your svm model ##Task4:implement support vector mechanism classifier using svm_classifier.The svm must be "Linear" ##Task5:Train the classifier on the training data ##Task6:find out the prediction value on the test data ##Task7:Test the model with the help of accuracy,accuracy should lie in range of 0-1

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[2]: # Load the Iris dataset
iris = load_iris()
X = iris.data
y = iris.target
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[3]: # Consider only two classes for simplicity
X = X[y != 2]
y = y[y != 2]
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[4]: # Split the dataset into training and testing sets
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2,
                                                    random_state=42)
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[5]: # Create an SVM classifier
svm_classifier = SVC(kernel='linear')
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[6]: # Train the classifier on the training data
      svm_classifier.fit(X_train, y_train)
```

```
[6]: SVC(kernel='linear')
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[7]: # Make predictions on the test data
      y_pred = svm_classifier.predict(X_test)
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[8]: # Calculate accuracy
      accuracy = accuracy_score(y_test, y_pred)
      print(f"Accuracy: {accuracy:.2f}")
```

Accuracy: 1.00

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[ ]:
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