sl-support-vector-mechanism-1

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#project title: using the support vector mechanism algorithm of super vised machine learning,predict iris.csv data set to find out spieces will be same or different

#Task:

1.preprocess the data skit learn library

2.load the data using sklearn model selection default arguement

3.on the basis of your dataset train test and split svm model

4.implement support vector mechanism classifier using svm_classifier.thr svm must be “Linear”

5.train the classifier on the training data

6.find out the prediction value on the test data

7.test the model with the help of accuracy,accuracy should be lie in the range of 0 to 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
```

[ ]:
```
# Load the Iris dataset
iris = load_iris()
X = iris.data
y = iris.target
```

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```
# Consider only two classes for simplicity
X = X[y != 2]
y = y[y != 2]
```

[ ]:
```
# 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)
```

[ ]:
```
# Create an SVM classifier
svm_classifier = SVC(kernel='linear')
```

[ ]:
```
# Train the classifier on the training data
svm_classifier.fit(X_train, y_train)
```

[ ]:
```
SVC(kernel='linear')
```

[ ]:
```
# Make predictions on the test data
y_pred = svm_classifier.predict(X_test)
```

[ ]:
```
# Calculate accuracy
accuracy = accuracy_score(y_test, y_pred)
print(f"Accuracy: {accuracy:.2f}")
```

```
Accuracy: 1.00
```

#Conclusion: according to my support vector mechanism model the species are linear with the accuracy of 1.00. hence proved model was sucessfully implement

[ ]:
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