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YEAR AND BRANCH : IV Year CSE Data Science

Project Title :

Prediction of Iris.csv dataset for decision tree algorithm using supervised learning machine algorithm.

Problem Statement :

An American based botanical garden grow iris flower in their labs but using biotechnology in a single tree where different types of variety flowers in grown , as a data science engineer how much accuracy is there in all categories which contain same species.

```
from sklearn.datasets import load_iris
from sklearn.model_selection import train_test_split
from sklearn.tree import DecisionTreeClassifier
from sklearn.metrics import accuracy_score

# Load the Iris dataset
iris = load_iris()
X = iris.data
y = iris.target

# 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 a Decision Tree classifier
decision_tree = DecisionTreeClassifier()

# Train the classifier on the training data
decision_tree.fit(X_train, y_train)

DecisionTreeClassifier()

# Make predictions on the test data
y_pred = decision_tree.predict(X_test)

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

Accuracy: 1.00
```

Conclusion :

According to the model the accuracy for all categories which contain same species is 1 %