

File Edit View Insert Runtime Tools Help

Commands + Code ▾ + Text ▾ Run all ▾

```
[2] ✓ 2s
▶ import numpy as np
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.preprocessing import StandardScaler
from sklearn.metrics import accuracy_score
from sklearn.neighbors import KNeighborsClassifier
from sklearn.svm import SVC
from sklearn.tree import DecisionTreeClassifier
from sklearn.naive_bayes import GaussianNB
from sklearn.neural_network import MLPClassifier

# Step 2: Load dataset
from sklearn.datasets import load_iris
data = load_iris()
X = data.data
y = data.target

# Step 3: Split dataset
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.3, random_state=42)

# Step 4: Scale features
scaler = StandardScaler()
X_train = scaler.fit_transform(X_train)
X_test = scaler.transform(X_test)

# Step 5: Define models (variations)
models = {
    "KNN": KNeighborsClassifier(),
    "SVM": SVC(),
    "Decision Tree": DecisionTreeClassifier(),
    "Naive Bayes": GaussianNB(),
    "MLP (Neural Net)": MLPClassifier(max_iter=1000)
}

# Step 6: Train and test each model
results = {}
for name, model in models.items():
    model.fit(X_train, y_train)
```