

## PRACTICAL-6

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```
import numpy as np
from sklearn.datasets import load_iris
from sklearn.model_selection import train_test_split
from sklearn.neighbors import KNeighborsClassifier
from sklearn.metrics import accuracy_score, precision_score, recall_score, f1_score

iris = load_iris()
X, y = iris.data, iris.target

X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.4, random_state=42)

knn = KNeighborsClassifier(n_neighbors=3)

knn.fit(X_train, y_train)

y_pred = knn.predict(X_test)

accuracy = accuracy_score(y_test, y_pred)
precision = precision_score(y_test, y_pred, average='weighted')
recall = recall_score(y_test, y_pred, average='weighted')
f1 = f1_score(y_test, y_pred, average='weighted')

print(f"Accuracy: {accuracy:.2f}")
print(f"Precision: {precision:.2f}")
print(f"Recall: {recall:.2f}")
print(f"F1 score: {f1:.2f}")
```

Accuracy: 0.98

Precision: 0.98

Recall: 0.98

F1 score: 0.98

OUTPUTS AFTER CHANGING THE TEXT SIZE WITH  
DIFFERENT VALUES:

SIZE=0.2

Accuracy: 1.00

Precision: 1.00

Recall: 1.00

F1 score: 1.00

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SIZE=0.6

Accuracy: 0.96

Precision: 0.96

Recall: 0.96

F1 score: 0.96

Size=0.8

Accuracy: 0.97

Precision: 0.98

Recall: 0.97

F1 score: 0.97