Lab #10

Name: Maryum Shakeel

Sap ID: 48406

Subject: AI Lab

Batch: BSCS 6th Semester

Submitted by: Miss Ayesha Akram

Task 1

Solution:

```
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, classification_report


# Load Iris dataset

iris = load_iris()

X = iris.data

y = iris.target


# Split into training and testing data (70% train, 30% test)

X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.3,
random_state=42)


# Create KNN model (k=3)

knn = KNeighborsClassifier(n_neighbors=3)


# Train the model

knn.fit(X_train, y_train)
```

```
# Predict on test data

y_pred = knn.predict(X_test)


# Accuracy

accuracy = accuracy_score(y_test, y_pred)

print("Accuracy:", accuracy)


# Classification report

print("\nClassification Report:")

print(classification_report(y_test, y_pred, target_names=iris.target_names))
```

Output: