**Write a Program for Confusion Matrix and calculate Precision, Recall, F-Measure using iris data set**

from sklearn.datasets import load\_iris  
from sklearn.model\_selection import train\_test\_split  
from sklearn.neighbors import KNeighborsClassifier  
from sklearn.metrics import confusion\_matrix, precision\_score, recall\_score, f1\_score  
  
  
iris = load\_iris()  
X\_iris = iris.data  
y\_iris = iris.target  
  
*# Split the Irish dataset into training and testing sets*X\_train\_iris, X\_test\_iris, y\_train\_iris, y\_test\_iris = train\_test\_split(X\_iris, y\_iris, test\_size=0.2, random\_state=42)  
  
*# Train the KNN classifier on the Irish d3ataset*knn\_iris = KNeighborsClassifier()  
knn\_iris.fit(X\_train\_iris, y\_train\_iris)  
  
*# Make predictions on the Irish testing set*y\_pred\_iris = knn\_iris.predict(X\_test\_iris)  
  
*# Calculate the confusion matrix for Irish dataset*cm\_iris = confusion\_matrix(y\_test\_iris, y\_pred\_iris)  
print("Confusion Matrix (Irish Dataset):")  
print(cm\_iris)  
  
*# Calculate precision, recall, and F-measure for Irish dataset*precision\_iris = precision\_score(y\_test\_iris, y\_pred\_iris, average='macro')  
recall\_iris = recall\_score(y\_test\_iris, y\_pred\_iris, average='macro')  
f1\_iris = f1\_score(y\_test\_iris, y\_pred\_iris, average='macro')  
  
print("Precision (Irish Dataset):", precision\_iris)  
print("Recall (Irish Dataset):", recall\_iris)  
print("F-measure (Irish Dataset):", f1\_iris)

**Write a Program for Confusion Matrix and calculate Precision, Recall, F-Measure using cancer data set**

from sklearn.datasets import load\_breast\_cancer  
from sklearn.model\_selection import train\_test\_split  
from sklearn.neighbors import KNeighborsClassifier  
from sklearn.metrics import confusion\_matrix, precision\_score, recall\_score, f1\_score  
  
*# Load the Breast Cancer dataset*cancer = load\_breast\_cancer()  
X\_cancer = cancer.data  
y\_cancer = cancer.target  
  
*# Split the Breast Cancer dataset into training and testing sets*X\_train\_cancer, X\_test\_cancer, y\_train\_cancer, y\_test\_cancer = train\_test\_split(X\_cancer, y\_cancer,  
 test\_size=0.2, random\_state=42)  
  
*# Train the KNN classifier on the Breast Cancer dataset*knn\_cancer = KNeighborsClassifier()  
knn\_cancer.fit(X\_train\_cancer, y\_train\_cancer)  
  
*# Make predictions on the Breast Cancer testing set*y\_pred\_cancer = knn\_cancer.predict(X\_test\_cancer)  
  
*# Calculate the confusion matrix for Breast Cancer dataset*cm\_cancer = confusion\_matrix(y\_test\_cancer, y\_pred\_cancer)  
print("\nConfusion Matrix (Breast Cancer Dataset):")  
print(cm\_cancer)  
  
*# Calculate precision, recall, and F-measure for Breast Cancer dataset*precision\_cancer = precision\_score(y\_test\_cancer, y\_pred\_cancer)  
recall\_cancer = recall\_score(y\_test\_cancer, y\_pred\_cancer)  
f1\_cancer = f1\_score(y\_test\_cancer, y\_pred\_cancer)  
  
print("Precision (Breast Cancer Dataset):", precision\_cancer)  
print("Recall (Irish Dataset):", recall\_cancer)  
print("F-measure (Irish Dataset):", f1\_cancer)