Ex:3 Evaluating the performance of results of machine learning algorithm

Aim:

   To evaluate the performance of results of machine learning algorithm.

Procedure:

1. Import the required modules, dataset and load the dataset.
2. Import the necessary libraries and model
3. Import the model from sklearn.
4. The dataset is split into training and testing sets using the train_test_split() function from sklearn.
5. Use the predict() method from the model to examine our test dataset.
6. In this program, 75% of the data is allocated to the training set and 25% to the testing set.
7. Finally, the performance metrics are printed.

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
from sklearn.model_selection import train_test_split
from sklearn.preprocessing import StandardScaler
from sklearn.linear_model import LogisticRegression
from sklearn.metrics import accuracy_score, precision_score, recall_score, f1_score

dataset = pd.read_csv("diabetes.csv")

x = dataset.iloc[:, [4, 7]].values
y = dataset.iloc[:, 8].values

xtrain, xtest, ytrain, ytest = train_test_split(x, y, test_size=0.25, random_state=0)

sc_x = StandardScaler()
xtrain = sc_x.fit_transform(xtrain)
xtest = sc_x.transform(xtest)

print(xtrain[0:10, :])

classifier = LogisticRegression(random_state=0)
classifier.fit(xtrain, ytrain)
y_pred = classifier.predict(xtest)

accuracy = accuracy_score(ytest, y_pred)
precision = precision_score(ytest, y_pred)
recall = recall_score(ytest, y_pred)
f1 = f1_score(ytest, y_pred)

print("Accuracy:", accuracy)
```

```
print("Precision:", precision)
print("Recall:", recall)
print("F1 Score:", f1)
```

Result:
The evaluation of results of machine algorithm with diabetes dataset is executed successfully.