**Name = Nihar**

**Sap ID = 500091867**

**Roll No = R2142210525**

**Experiment No -7**

**Title:- Implementation of Random Forest**

**Code:-**

import pandas as pd

from sklearn.datasets import load\_iris

from sklearn.ensemble import RandomForestClassifier

from sklearn.model\_selection import train\_test\_split

from sklearn.metrics import accuracy\_score

from sklearn.metrics import f1\_score,precision\_score,recall\_score

Iris = load\_iris()

df = pd.DataFrame(Iris.data, columns=Iris.feature\_names)

df['target'] = Iris.target

print(df)

X\_train, X\_test, y\_train, y\_test = train\_test\_split(df[Iris.feature\_names],df['target'], test\_size=0.3, random\_state=20)

rf = RandomForestClassifier(n\_estimators=300, random\_state=20)

rf.fit(X\_train, y\_train)

y\_pred = rf.predict(X\_test)

print("Predicted Value:",y\_pred)

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("Accuracy:", accuracy)

print("Precision:", precision)

print("Recall Score:", recall)

print("F1 Score:", f1)

**Output:-**

