Program No:-1

Aim :- Python program to implement matrix operations

Program Code

```
import numpy as np
MatA = np.array([[2, 4, 6], [8, 10, 12], [14, 16, 18]])
MatB = np.array([[1, 2, 3], [4, 5, 6], [7, 8, 9]])
print(" MatA")
print(MatA)
print("MatB")
print(MatB)
print("Transpose Of Matrix A")
print(np.transpose(MatA))
print("Transpose Of Matrix B")
print(np.transpose(MatB))
print("A * transpose(A)")
print(np.transpose(MatA)*MatA)
print("B * transpose(B)")
print(np.transpose(MatB)*MatB)
```

Output

```
C:\Users\ajcemca\PycharmProjects\pythonProject\venv\Scripts\python.exe C:/Users/ajcemca/PycharmProjects/pythonProject/matrix.py
 MatA
[[ 2  4  6]
 [ 8 10 12]
 [14 16 18]]
MatB
[[1 2 3]
 [4 5 6]
 [7 8 9]]
Transpose Of Matrix A
[[ 2  8 14]
 [ 4 10 16]
 [ 6 12 18]]
Transpose Of Matrix B
[[1 4 7]
 [2 5 8]
 [3 6 9]]
A * transpose(A)
[[  4  32  84]
 [ 32 100 192]
 [ 84 192 324]]
B * transpose(B)
[[ 1  8 21]
 [ 8 25 48]
 [21 48 81]]

Process finished with exit code 0
```

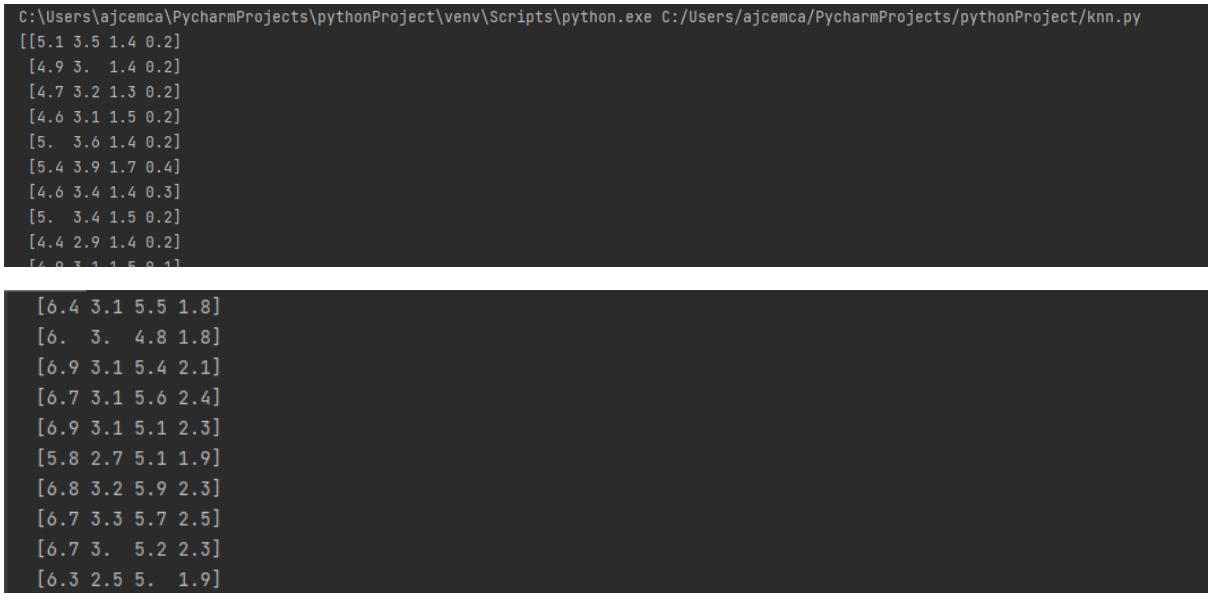
Program No:-2

Aim :- Python program to implement K-NN classification algorithm

Program Code

```
import numpy as np
from sklearn.neighbors import KNeighborsClassifier
from sklearn.model_selection import train_test_split
from sklearn.datasets import load_iris
from sklearn.metrics import accuracy_score
irisdata = load_iris()
x = irisdata.data
y = irisdata.target
print(x)
print(y)
x_train, x_test, y_train, y_test = train_test_split(x, y, test_size=0.1, random_state=42)
knn = KNeighborsClassifier(n_neighbors=2)
knn.fit(x_train, y_train)
w = knn.fit(x_train, y_train)
z = knn.fit(x_test, y_test)
ac = accuracy_score(x_test, y_test)
print(ac)
```

Output



```
[0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
 2 2]
```