

## Program No:1

**Aim:Perform all matrix operation using python [using Numpy].**

### Program:

```
import numpy
x=numpy.array([[1,3,5],[2,4,6],[7,9,11]])
y=numpy.array([[2,4,6],[1,5,3],[6,2,3]])
print("Addition of matrix:")
print(numpy.add(x,y))
print("Subtract of matrix:")
print(numpy.subtract(x,y))
print("Multiplication of matrix:")
print(numpy.multiply(x,y))
print("Division of matrix:")
print(numpy.divide(x,y))
print("Dot operation:")
print(numpy.dot(x,y))
print("Square root of the matrix")
print(numpy.sqrt(x))
print("Summation of the matrix y:")
print(numpy.sum(y))
print("transpose of the matrix x:")
print(x.T)
```

### Output

---

C:\Users\ajcemca\AppData\Local\Programs\Python\Python39\python.exe C:/Users/ajcemca/PycharmProjects/pythonProject/MAddition.py

Addition of matrix:

```
[[ 3  7 11]
 [ 3  9  9]
 [13 11 14]]
```

Subtract of matrix:

```
[[ -1 -1 -1]
 [ 1 -1  3]
 [ 1  7  8]]
```

Multiplication of matrix:

```
[[ 2 12 30]
 [ 2 20 18]
 [42 18 33]]
```

Division of matrix:

```
[[0.5      0.75     0.83333333]
 [2.        0.8      2.        ]
 [1.16666667 4.5      3.66666667]]
```

Dot operation:

```
[[ 35  29  30]
 [ 44  40  42]
 [ 89  95 102]]
```

```
Square root of the matrix
[[1.          1.73205081  2.23606798]
 [1.41421356  2.          2.44948974]
 [2.64575131  3.          3.31662479]]
```

```
Summation of the matrix y:
```

```
32
```

```
transpose of the matrix x:
```

```
[[ 1  2  7]
 [ 3  4  9]
 [ 5  6 11]]
```

```
Process finished with exit code 0
```