Practical - 11

AIM

Perform vectorized implementation of simple matrix operation like finding the transpose of a matrix, adding, subtracting or multiplying two matrices.

CODE & OUTPUT

In [2]:
```python
import numpy as np

# transpose of a matrix
mat = np.array([[1, 2, 3], [4, 5, 6], [7, 8, 9]])
transpose = np.transpose(mat)
print(transpose)
```

```
[[1 4 7]
 [2 5 8]
 [3 6 9]]
```

In [3]:
```python
# adding two matrices
mat1 = np.array([[6, 5, 4], [7, 5, 1], [0, 6, 9]])
addition = np.add(mat, mat1)
print(addition)
```

```
[[ 7  7  7]
 [11 10  7]
 [ 7 14 18]]
```

In [4]:
```python
# subtract two matrices
addition = np.subtract(mat, mat1)
print(addition)
```

```
[[-5 -3 -1]
 [-3  0  5]
 [ 7  2  0]]
```

In [5]:
```python
# multiply two matrices
addition = np.multiply(mat, mat1)
print(addition)
```

```
[[ 6 10 12]
 [28 25  6]
 [ 0 48 81]]
```