

MATHS ASSIGNMENT SET2

QUESTION4

AIM:

- FIND VECTOR MATRIX MULTIPLICATION
- FIND SCALAR MATRIX MULTIPLICATION

PROGRAM :

```
import numpy as np

# Define two matrices as numpy arrays
matrix1 = np.array([[1, 2], [3, 4]])
matrix2 = np.array([[5, 6], [7, 8]])

# Perform matrix multiplication
result = np.dot(matrix1, matrix2)

# Print the result
print("Matrix 1:")
print(matrix1)

print("Matrix 2:")
print(matrix2)

print("Result of matrix multiplication:")
print(result)
```

OUTPUT:

```
Matrix 1:
[[1 2]
 [3 4]]
```

```
Matrix 2:
[[5 6]
 [7 8]]
```

```
Result of matrix multiplication:
[[19 22]]
```

[43 50]]

PROGRAM (SCALAR MATRIX MULTIPLICATION):

```
import numpy as np

# Define a matrix as a numpy array
matrix = np.array([[1, 2], [3, 4]])

# Define a scalar value
scalar = 2

# Perform scalar multiplication
result = scalar * matrix

# Print the result
print("Original Matrix:")
print(matrix)

print("Scalar:")
print(scalar)

print("Result of scalar multiplication:")
print(result)
```

OUTPUT:

```
Original Matrix:
[[1 2]
 [3 4]]
```

```
Scalar:
2
```

Result of scalar multiplication:
[[2 4]
[6 8]]

RESULT:

THE PROGRAM HAS RUN AND OUTPUT OBTAINED SUCCESFULLY