### Practical No: 3(A)

Practical Title: Perform different operations on Matrix.

**Aim:** Write a Python program to compute following computation on matrix:

1. Addition of two matrices
2. Subtraction of two matrices
3. Multiplication of two matrices
4. Transpose of a matrix

Pre-requisite:

* + Knowledge of representing matrix in Python
  + Knowledge of different operations that can be performed on matrix

Objectives:

* + Compute the transpose of matrix
  + Perform addition, subtraction and multiplication of two matrices.

**Input:**

* Number of rows and columns of two matrices
* Elements of both the matrices
* Transpose of a matrix
* Result of addition, subtraction and multiplication of both matrices.
  + 2-dimension array –

Write theory of 2-D array

Explain Split Function and Numpy Library

* + Matrix Operations (explain each operation in detail with example)
* **Concept of matrix**
* Addition
* **Subtraction**
* Multiplication
* **Transpose of matrix**

Algorithm:

1. Start
2. Input number of rows and columns of first matrix.
3. Input elements of first matrix.
4. Input number of rows and columns of second matrix.
5. Input elements of Second matrix.
6. Function to transpose first matrix i.e. the element at row r column c in the original is placed at row c column r of the transpose.
7. Fuction to add, subtract and multiply two matrices.

**Flowchart:**

**Draw flowchart for above algorithm**

Conclusion:

By this way, we can perform various operations on matrix successfully**.**

Questions:

1. What is upper triangular matrix and lower triangular matrix?
2. How to find transpose of a matrix.
3. Different operations on matrix.