**SE Introduction To Programming**

● **Write a program to make multiplication of 2-D Matrix**

Make sure each business logic is denoted with appropriate comments and make your code interactive and represent clean and clear output on your console screen.

Adhere to the coding principles

To Accomplish this program you have to use 2-Dimensional Array concept

Firstly take the matrix input from user and display elements in Matrix format :

**Ans:**

#include <iostream>

using namespace std;

void inputMatrix(int matrix[2][2], string name) {

cout << "\nEnter elements of " << name << " Matrix (2x2):\n";

for (int i = 0; i < 2; i++) {

for (int j = 0; j < 2; j++) {

cout << "Enter element [" << i+1 << "][" << j+1 << "]: ";

cin >> matrix[i][j];

}

}

}

void displayMatrix(int matrix[2][2], string name) {

cout << "\n" << name << " Matrix:\n";

for (int i = 0; i < 2; i++) {

for (int j = 0; j < 2; j++) {

cout << matrix[i][j] << "\t";

}

cout << endl;

}

}

void multiplyMatrices(int A[2][2], int B[2][2], int result[2][2]) {

for (int i = 0; i < 2; i++) {

for (int j = 0; j < 2; j++) {

result[i][j] = 0;

for (int k = 0; k < 2; k++) {

result[i][j] += A[i][k] \* B[k][j];

}

}

}

}

int main() {

int A[2][2], B[2][2], result[2][2];

cout << "Matrix Multiplication Program (2x2)\n";

inputMatrix(A, "First");

inputMatrix(B, "Second");

displayMatrix(A, "First");

displayMatrix(B, "Second");

multiplyMatrices(A, B, result);

displayMatrix(result, "Resultant (A x B)");

return 0;

}

**Output:**

Matrix Multiplication Program (2x2)

Enter elements of First Matrix (2x2):

Enter element [1][1]: 1

Enter element [1][2]: 2

Enter element [2][1]: 3

Enter element [2][2]: 4

Enter elements of Second Matrix (2x2):

Enter element [1][1]: 5

Enter element [1][2]: 6

Enter element [2][1]: 7

Enter element [2][2]: 8

First Matrix:

1 2

3 4

Second Matrix:

5 6

7 8

Resultant (A x B) Matrix:

19 22

43 50