1. Write a program in C for subtraction of two Matrices.

Test Data :

Input the size of the square matrix (less than 5): 2

Input elements in the first matrix :

element - [0],[0] : 5

element - [0],[1] : 6

element - [1],[0] : 7

element - [1],[1] : 8

Input elements in the second matrix :

element - [0],[0] : 1

element - [0],[1] : 2

element - [1],[0] : 3

element - [1],[1] : 4

Expected Output :

The First matrix is :

5 6

7 8

The Second matrix is :

1 2

3 4

The Subtraction of two matrix is :

4 4

4 4

2. Write a program in C for multiplication of two square Matrices.

Test Data :

Input the rows and columns of first matrix : 2 2

Input the rows and columns of second matrix : 2 2

Input elements in the first matrix :

element - [0],[0] : 1

element - [0],[1] : 2

element - [1],[0] : 3

element - [1],[1] : 4

Input elements in the second matrix :

element - [0],[0] : 5

element - [0],[1] : 6
element - [1],[0] : 7
element - [1],[1] : 8
Expected Output :
The First matrix is :

1 2
3 4
The Second matrix is :

5 6
7 8
The multiplication of two matrix is :

19 22
43 50

3. Write a program in C to find transpose of a given matrix.
Test Data :
Input the rows and columns of the matrix : 2 2
Input elements in the first matrix :
element - [0],[0] : 1
element - [0],[1] : 2
element - [1],[0] : 3
element - [1],[1] : 4
Expected Output :
The matrix is :

1 2
3 4

The transpose of a matrix is :
1 3
2 4

4. Write a program in C to find sum of right diagonals of a matrix.
Test Data :
Input the size of the square matrix : 2

Input elements in the first matrix :
element - [0],[0] : 1
element - [0],[1] : 2
element - [1],[0] : 3
element - [1],[1] : 4
Expected Output :
The matrix is :
1 2
3 4
Addition of the right Diagonal elements is :5
Elements in array are:

5. Write a program in C to find the sum of left diagonals of a matrix.
Test Data :
Input the size of the square matrix : 2
Input elements in the first matrix :
element - [0],[0] : 1
element - [0],[1] : 2
element - [1],[0] : 3
element - [1],[1] : 4
Expected Output :
The matrix is :
1 2
3 4
Addition of the left Diagonal elements is :5

6. Write a program in C to find sum of rows an columns of a Matrix.
Test Data :
Input the size of the square matrix : 2
Input elements in the first matrix :
element - [0],[0] : 5
element - [0],[1] : 6
element - [1],[0] : 7
element - [1],[1] : 8
Expected Output :
The First matrix is :
The matrix is :
5 6

7 8
The sum or rows and columns of the matrix is :
5 6 11
7 8 15

12 14

7. Write a program in C to print or display the lower triangular of a given matrix.
Test Data :
Input the size of the square matrix : 3
Input elements in the first matrix :
element - [0],[0] : 1
element - [0],[1] : 2
element - [0],[2] : 3
element - [1],[0] : 4
element - [1],[1] : 5
element - [1],[2] : 6
element - [2],[0] : 7
element - [2],[1] : 8
element - [2],[2] : 9
Expected Output :
The matrix is :
1 2 3
4 5 6
7 8 9

Setting zero in lower triangular matrix

1 2 3
0 5 6
0 0 9

8. Write a program in C to print or display upper triangular matrix.
Test Data :
Input the size of the square matrix : 3
Input elements in the first matrix :
element - [0],[0] : 1
element - [0],[1] : 2

element - [0],[2] : 3
element - [1],[0] : 4
element - [1],[1] : 5
element - [1],[2] : 6
element - [2],[0] : 7
element - [2],[1] : 8
element - [2],[2] : 9
Expected Output :
The matrix is :
1 2 3
4 5 6
7 8 9

Setting zero in upper triangular matrix
1 0 0
4 5 0
7 8 9

9. Write a program in C to calculate determinant of a 3 x 3 matrix.
Test Data :
Input elements in the first matrix :
element - [0],[0] : 1
element - [0],[1] : 0
element - [0],[2] : -1
element - [1],[0] : 0
element - [1],[1] : 0
element - [1],[2] : 1
element - [2],[0] : -1
element - [2],[1] : -1
element - [2],[2] : 0
Expected Output :
The matrix is :
1 0 -1
0 0 1
-1 -1 0

The Determinant of the matrix is: 1