**2D Arrays Set1**

1.WAP to read and display elements of a 3x3 matrix.

2. WAP to read an MxN matrix (M<=5, N<=5), and display

a. All elements of a given Row (Row number (between 0 and M-1) will be entered

by the user.)

b. All elements of a given column (Column number (between 0 and N-1) will be

entered by the user.)

c. Element at a given row and column value (Row number (between 0 and M-1) and

Column number (between 0 and N-1) will be entered by the user.

3. WAP to read two matrices and do the following:-

a. Addition of matrices

b. Subtraction

c. Scaling a matrix (Multiplying all elements by a given scalar value)

4. WAP to find the Transpose of a given matrix.

5. WAP to read a square matrix and print its diagonal elements alone. (Hint: Use a single

loop and put both dimensions as same)

6. WAP to read a square matrix and print its trace (sum of diagonal elements).

7. WAP to enter a square matrix and check whether it is Symmetric (Matrix = Transpose for all elements)

8. WAP to enter a square matrix and check whether it is Skew-Symmetric (Transpose element = -(Matrix element))

9. WAP to enter a square matrix and check whether it is Lower-Triangular (Entry above main diagonal are 0s)

10. WAP to enter a square matrix and check whether it is Upper-Triangular (Entry below main diagonal are 0s)

8. Write a C program that accepts a square matrix and calculates the sum of the following:

a. each row

b. each column

c. both diagonals

d. lower triangle

e. upper triangle

f. all elements in the matrix