

Array - Two Dimension

- 1** Write a menu driven C++ program to do following operation on two dimensional array A of size m x n. You should use user-defined functions which accept 2-D array A, and its size m and n as arguments. The options are:

To input elements into matrix of size m x n
To display elements of matrix of size m x n
Sum of all elements of matrix of size m x n
To display row-wise sum of matrix of size m x n
To display column-wise sum of matrix of size m x n
To create transpose of matrix B of size n x m

- 2** Write user defined functions for square matrix to calculate

Left diagonal sum
Right diagonal sum

- 3** Write a user-defined function in C++ to display the multiplication of row element of two-dimensional array A[4][6] containing integer.

- 4** Write a user defined function named Upper-half() which takes a two dimensional array A, with size N rows and N columns as argument and prints the upper half of the array.

e.g.,

2 3 1 5 0		2 3 1 5 0
7 1 5 3 1		1 5 3 1
2 5 7 8 1	The output will be	1 7 8
0 1 5 0 1		0 1
3 4 9 1 5		5

- 5** Write a function in C++ which accepts a 2D array of integers and its size as arguments and displays the elements of middle row and the elements of middle column.

[Assuming the 2D Array to be a square matrix with odd dimension i.e. 3x3, 5x5, 7x7 etc...]

Example, if the array contents is

3 5 4

7 6 9

2 1 8

Output through the function should be :

Middle Row : 7 6 9

Middle column : 5 6 1

- 6** Write a program to add two array A and B of size $m \times n$.
- 7** Write a program to multiply array A and B of order $N \times L$ and $L \times M$