Name: ID: Sec:

CSE 115L : 2D Array: Practice Problems

1. Declare a 2D array and initialize it with the following values at the time of declaration (**no scanf**). Finally display its content in the following format.

   78 83 82 54
   81 80 23 14
   11 20 31 11
   56 79 31 90
   32 45 56 87

2. Ask user for number of rows M and number of columns N. Based on the input, declare two 2-dimensional arrays of size M X N. Now implement the following tasks:

   i) Take input for both arrays
   ii) Output the arrays as form of matrix
   iii) Calculate the sum and store the sum in another 2D array of same dimension. Display the sum.

   Sample run:

Row: 2 Column: 3	Enter first array elements: 2 3 1 10 4 6	Enter second array elements: 7 2 4 6 8 4	First array: 2 3 1 10 4 6 Second array: 7 2 4 6 8 4	Sum: 9 5 5 16 12 10

3. Take input of a NxN matrix and display the sum of its main diagonal element. N will also be input. **Example**: For the following matrix, your program should display 12. (Because 5+3+4 = 12)

   5 2 1
   0 **3** 7
   6 8 **4**

4. Ask user for a positive integer n and then create and display a n x n diagonal matrix as follows:
   Sample run:

```
Enter n: 4
0 0 0 1
0 0 1 0
0 1 0 0
1 0 0 0
```