ARRAY-RELATED PRACTICE DAY

1. WAP that will take (n x n) integer inputs into a square matrix of dimension n (where n must be an odd number). Then calculate the sum of the integers based on the following position pattern (consider only the boxed position during the sum). Please see the input-output.

Sample input	**Sample output**
5 1 2 3 4 5 2 3 4 1 6 3 4 9 6 7 4 2 6 7 8 5 4 3 2 1	71
7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	25

2. WAP that will take inputs of a n sized square matrix into a 2D array. Now show all the elements of its two diagonals. Reference: http://en.wikipedia.org/wiki/Main_diagonal

Sample input	**Sample output**
5 1 2 3 4 5 5 4 3 2 1 2 2 2 2 2 6 7 8 9 0 1 9 3 7 4	Major diagonal: 1 4 2 9 4 Minor diagonal: 5 2 2 7 1

3. WAP that will take the size of an identity matrix from the user and generate the identity matrix into a 2D array. Finally display it. Reference:http://en.wikipedia.org/wiki/Identity_matrix

Sample input	**Sample output**
5	1 0 0 0 0 0 1 0 0 0 0 0 1 0 0 0 0 0 1 0 0 0 0 0 1

4. WAP that will take (m x n) integer inputs into a matrix of dimension m x n. Now reverse that matrix within itself and display it. The reversal means swapping the 1st column with the nth column, the 2nd column with the (n-1)th column, and so on…

Sample input	**Sample output**
3 3 1 2 3 4 5 6 2 9 2	3 2 1 6 5 4 2 9 2
2 6 1 2 3 4 5 6 9 8 7 6 5 4	6 5 4 3 2 1 4 5 6 7 8 9

5. WAP that will take (m x n) positive integer inputs into a matrix of dimension m x n. Now replace all the duplicate integers by -1 in that matrix. Finally display it.

Sample input	**Sample output**
3 3 1 7 3 7 4 5 3 5 6	1 7 3 -1 4 5 -1 -1 6
2 6 2 2 2 2 2 2 6 5 4 3 2 1	2 -1 -1 -1 -1 -1 6 5 4 3 -1 1