MODULE 15.5 PRACTICE DAY

1. WAP that will take n integers into a sqrt(n) by sqrt(n) array (2D) and show them as traditional matrix view.

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

2. WAP that will take inputs of two 3×3 sized matrix into two 2D array, suppose A and B. Now do C = A * B (multiplication). Finally display all the elements from matrix / 2D array C.

Sample input	Sample output
123	999
456	24 24 24
789	39 39 39
222	
222	
1 1 1	

3. WAP that will take inputs of $m \times n$ sized matrix into a 2D array and find the maximum element with index location from that matrix.

Sample input	Sample output
3 3	Max: 9
1 2 3	Location: [2][1]
456	2 32 3
1 2 3 4 5 6 2 9 2	

2 3 9 8 7 3 4 5	Max: 9 Location: [0][0]

4. WAP that will take $(n \times n)$ integer inputs into a square matrix of dimension n (where n must be an odd number). Then calculate sum of the integers at first row, last row and two diagonals without overlap. Please see the sample input-output.

Sample input	Sample output
5 1 2 3 4 5 2 3 4 1 6	52
3 4 9 6 7 4 2 6 7 8 5 4 3 2 1	
7 1	23

5. WAP that will take $(n \times n)$ 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	65
1 2 3 4 5	
2 3 4 1 6	
34967	
42678	
5 4 3 2 1	
7	33
1 <mark>1</mark> 1 <mark>1</mark> 1 <mark>1</mark> 1	
111111	
1 <mark>1</mark> 1 <mark>1</mark> 1 <mark>1</mark> 1	
111111	
1 1 1 1 1 1 1	
111111	
1 <mark>1</mark> 1 <mark>1</mark> 1 <mark>1</mark> 1	