

Lab 1-1.1

Consider an array MARKS[20][5] which stores the marks obtained by 20 students in 5 subjects. Now write a program to

- Find the average marks obtained in each subject.

Specify only 2 decimal points (round down).

Input:

First Line to Line 20 : integer a,b,c,d,e while $0 \leq a,b,c,d,e \leq 100$

Output:

Line 1 to Line 5 : Average Score of each subject

Input	Output
100 100 100 100 100	
90 90 90 90 90	
80 80 80 80 80	
70 70 70 70 70	
60 60 60 60 60	
50 50 50 50 50	
40 40 40 40 40	
30 30 30 30 30	
20 20 20 20 20	43.2
10 10 10 10 10	44.7
0 0 0 0 0	46.2
10 10 10 10 10	47.7
15 15 15 15 15	54.15
20 25 30 35 40	
20 40 60 80 100	
100 80 60 40 20	
0 25 50 75 100	
0 0 0 0 100	
99 99 99 99 99	
50 50 50 50 49	

Lab 1-1.2

Consider a array MARKS[20][5] which stores the marks obtained by 20 student in 5 subjects. Now write a program to

- Find the average marks obtained by every student.

Specify only 2 decimal points (round down).

Input:

First Line to Line 20 : integer Xi ,1 to 5, while $0 \leq X \leq 100$

Output:

Line 1 to Line 20 : Average score of each student

Input	Output
100 100 100 100 100	100
90 90 90 90 90	90
80 80 80 80 80	80
70 70 70 70 70	70
60 60 60 60 60	60
50 50 50 50 50	50
40 40 40 40 40	40
30 30 30 30 30	30
20 20 20 20 20	20
10 10 10 10 10	10
0 0 0 0 0	0
10 10 10 10 10	10
15 15 15 15 15	15
20 25 30 35 40	30
20 40 60 80 100	60
100 80 60 40 20	60
0 25 50 75 100	50
0 0 0 0 100	20
99 99 99 99 99	99
50 50 50 50 49	49.8

Lab 1-1.3

Consider a array MARKS[20][5] which stores the marks obtained by 20 student in 5 subjects. Now write a program to

- Find the number of students who have scored below 50 in their average

Input:

First Line to Line 20 : integer Xi ,1 to 5, while $0 \leq X \leq 100$

Output:

First Line : Number of student who scored below 50 in their arerage

Input	Output
100 100 100 100 100 90 90 90 90 90 80 80 80 80 80 70 70 70 70 70 60 60 60 60 60 50 50 50 50 50 40 40 40 40 40 30 30 30 30 30 20 20 20 20 20 10 10 10 10 10 0 0 0 0 0 10 10 10 10 10 15 15 15 15 15 20 25 30 35 40 20 40 60 80 100 100 80 60 40 20 0 25 50 75 100 0 0 0 0 100 99 99 99 99 99 50 50 50 50 49	10

Lab 1-2

Write a program to input the element of a two-dimension array. Then from this array, make two arrays. One that store all odd elements of the two-dimensional array and the other that stores all even elements of the array.

If array empty print None

Input:

First Line : integer n,m while $1 \leq n, m \leq 100$ #Dimension of input array

Line 2 to Line m+1 : integer X_i is a member of Array, index equal to i while $-10000 \leq X_i \leq 10000$ and Size of i equal n

Output:

Line 1 : numbers in odd Array.

Line 2 : numbers in even Array.

Input	Output
2 3 1 2 3 4 5 6	1 3 5 2 4 6
5 4 1 3 5 7 9 10 12 14 16 18 19 21 23 25 27 28 30 32 34 36	1 3 5 7 9 19 21 23 25 27 10 12 14 16 18 28 30 32 34 36

Lab 1-3

Write a program using pointers to interchange the second biggest and the second smallest number in the array

Assume every element are unique

Input:

First Line : integer n while $2 \leq n \leq 100$ #Size of array

Line 2 : integer X_i is a member of Array, index equal to i while $-10000 \leq X_i \leq 10000$ and Size of Array equal to n

Output:

First Line : new array after interchange

Input	Output
5 1 2 3 4 5	1 4 3 2 5
9 2 3 9 8 0 1 5 11 19	2 3 9 8 0 11 5 1 19

Lab 1-4

Write a program that read a square matrix and displays the sum of its diagonal elements.

Input:

First Line : integer n while $1 \leq n, m \leq 100$ #Dimension of Matrix (n x n)

Line 2 to Line n+1 : integer X_i is a member of Array, index equal to i while $-10000 \leq X_i \leq 10000$ and Size of Array equal to n

Output:

First Line : sum of diagonal elements in the square matrix

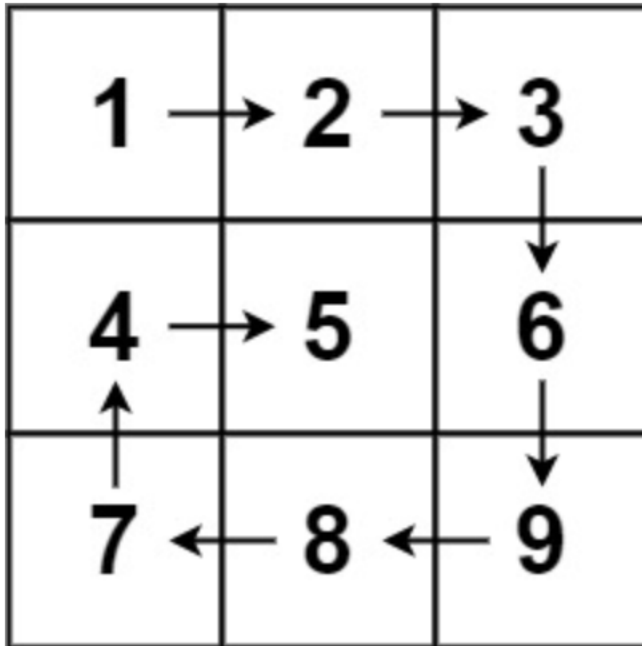
Input	Output
3 1 2 7 3 4 8 5 6 9	14
5 1 3 5 7 9 10 12 14 16 18 19 21 23 25 27 28 30 32 34 36 0 -10 -10 -10 0	70

Lab 1-5

Write a program to input the element of a m x n matrix. Then print all elements in spiral order.

For example:

print 1 2 3 6 9 8 7 4 5



Input:

First Line : integer n,m while $1 \leq m, n \leq 100$ #Dimension of input array

Line 2 to Line m+1 : integer X_i is a member of Array, index equal to i while $-10000 \leq X_i \leq 10000$ and Size of i equal n

Output:

First Line : spiral order of each element in martix

Input	Output
3 2 1 2 3 4 5 6	1 2 4 6 5 3
4 5 1 3 5 7 9 10 12 14 16 18 19 21 23 25 27 28 30 32 34 36	1 3 5 7 9 18 27 36 34 32 30 28 19 10 12 14 16 25 23 21