

1

Reverse Array

Write a program that takes an array of size N as input and gives the output as an array in the reverse order. The format of the input is as follow:

Attempted

Right
Solution

Retry

N
a1 a2 a3 a4 a5 ... an

'N' is the size of the array and a1, a2, a3, ... an, are its elements. Your program should give output (on the same line and separated by a space) as follows:

an an-1 an-2 ... a1

Example

Case 1:
For input provided as follows:

3
1 2 3

Output of the program will be:

3 2 1

Description:

As the input is 1 2 3, if we reverse these numbers we get: 3 2 1.

Case 2:

For the input provided as follows:

4
1 2 1 0

Output of the program will be:

0 1 2 1

Description:

The reversed order of the input is 0 1 2 1.

2

Maximum Number
Linked List

Write a program that takes a single linked list of integers of positive size N and outputs the maximum number from the inputted list. The input will be given in one line in the following format:

N
a1 a2 a3 a4 a5 ... an

N is the size of the list and a1, a2, a3, ..., an are the integers present on the list indicating that a1 has a link to a2, a2 has a link to a3 and so on.

Example

Case 1:
For input provided as follows:

7
1 5 1 4 9 0 4

Output of the program will be:

9

Description:

The maximum number present on the list is the number 9.

Case 2:
For the input provided as follows:

7
1 10 0 1 2 3 9

Output of the program will be:

10

Description:

The maximum number present on the list is the number 10.

Attempted

Right
Solution

Retry

3

Circle Intersection

Write a program that takes the center co-ordinates and radius of two circles and gives output YES, if they intersect each other, otherwise gives output NO. The input will be given in the following format:

Attempted

Right
Solution

Retry

```
x1 y1 c1  
x2 y2 c2
```

One line for each circle, where x_i, y_i stands for the center coordinates of the i -th circle and c_i for its radius. Note that x_i, y_i and c_i are all integers.

Two circles intersect each other if it's not possible to find a line that separates them.

Example

Case 1: For the input provided as follows:

```
0 0 1  
0 0 2
```

Output of the program will be:

YES

Description:

Since they share the same center co-ordinates, they intersect each other.

Case 2:

For the input provided as follows:

```
0 0 1  
4 0 2
```

Output of the program will be:

NO

Description:

They do not share any point, so they do not intersect with each other.

4

From Cartesian to
Polar

Given a set of points in rectangular Cartesian coordinates. You are required to transform them into polar coordinates. You must output both the radius and the angle, rounded to 2 decimal places. The angle must be in the range $[0, 360)$ and should be measured counter-clockwise taking the x-axis as reference. The first line of the input will contain a single integer N . N lines follow, each one with 2 floating point numbers, corresponding to x and y coordinates, respectively. For each one, output a line with the proper radius and angle, separated by a single blank space.

Attempted

Right
Solution

Retry

Case 1:

For the input provided as follows:

```
2
1 1
-1 -1
```

Output of the program will be:

```
1.41 45.00
1.41 225.00
```

Case 2:

For the input provided as follows:

```
4
3 0
0 3
-3 0
0 -3
```

Output of the program will be:

```
3.00 0.00
3.00 90.00
3.00 180.00
3.00 270.00
```

5

Area

Write a program that takes one integer N and one array of size 2 x N, containing coordinates of N points. The array will be given in one line in the following format:

Attempted

Right
Solution

Retry

N
x1 y1 x2 y2 ... xn yn

The second line will contain 2 x N integers, representing the points of a convex polygon given in the clockwise order.

Your program should output the total area of the inputted convex polygon with precision of two decimal places.

Example:

Case 1:

For the input provided as follows:

4
0 0 0 4 4 4 4 0

Output of the program will be:

16.00

Case 2:

For the input provided as follows:

3
0 0 0 4 4 4

Output of the program will be:

8.00