Coding Arena

Problem : Rotation

A Game developer is developing a game. To enrich his graphics he needs a quick API to do rotation and scaling of objects of various shapes that appear in the game. You have been chosen to partner this developer. Shoulder the responsibility of developing this API.

You have your work cut-out in form of the input and output specs below.

Input Format:

First line contains number of sides of a polygon, denoted by **N**
Next N lines contain **x** and **y** coordinates, respectively, of the points forming the polygon, delimited by space
Next line contains angle of rotation **A**
Next line contains scaling factor **S**
Last line contains coordinates about which the polygon has to be rotated, denoted by (a, b)

Output Format:

Print new coordinates of polygon after rotation and scaling

Constraints:

Polygon will be 3-sided or higher

x and y can be positive or negative integers or zero

Angle of rotation (A) can have only three discrete values {90, 180, 270} in degree

Positive angles indicate clock-wise rotation. Negative angles indicate anti clock-wise rotation

Scaling Factor S can be greater than 1

Point around which the polygon has to be rotated, denoted by (a, b) can be positive or negative integers or zero

Sample Input and Output

SNo.	Input	Output
1	4 3 2 3 5 6 1 6 5 90 10 3 8	50 50 80 50 40 20 80 20
2	5 0 4 -5 0 5 0 -5 -4 5 -4 90 5 5 6	45 30 25 55 25 5 5 55 5 5

Note:

Please do not use package and namespace in your code. For object oriented languages your code should be written in one class.

Note:

Participants submitting solutions in C language should not use functions from <conio.h> / <process.h> as these files do not exist in gcc

Note:

For C and C++, return type of main() function should be int.

Submit Answer

I , **YASHWANTH BUDANKAYALA** confirm that the answer submitted is my own.

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