I. Rotation

time limit per test: 2 seconds
memory limit per test: 64 megabytes
input: standard input
output: standard output

Ehsan loves geometry! Especially he likes to rotate points!

Given a point in the plane, Ehsan likes to rotate it by k degrees (counter-clockwise), around the origin. What is the result of this rotation?

Input

A single integer k ($0 \le k < 360$) is given in the first line. Two integer numbers x and y are given in the second line ($-1390 \le x, y \le 1390$).

Output

Write two numbers. The result of the rotation. Your answer must have a relative error less than 10^{-1}.

Examples

input

```
90
1 1
```

output

```
-1.00000000 1.00000000
```

input

```
180
1 1390
```

output

```
-1.00000000 -1390.00000000
```