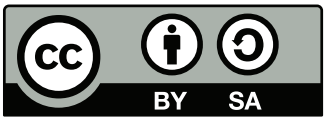
BAPC 2020
Testsession

Testsession for the
2020 Benelux Algorithm Programming Contest

Problems

X Guessing Game
Y Gamesmanship
Z Test Case Troubles



X Guessing Game

The jury decided to not give away the answer to this problem. Instead, you will have to guess.

For each testcase, the answer is a number between 1 and 1000, inclusive. After each guess, we will tell you whether your guess was correct, too low, or too high.

To not make this problem too difficult (it is a test session problem, after all), it has been decided that you may use at most 1000 guesses to guess the answer.

Interaction

This is an interactive problem. Your submission will be run against an *interactor*, which reads the standard output of your submission and writes to the standard input of your submission. This interaction needs to follow a specific protocol:

Your program should make at most 1000 guesses. For each guess, your program should print an integer x ($1 \leq x \leq 1000$), the number you want to guess. The interactor will respond with a single line containing one of the following three sentences:

- "`That is correct!`" if you guess the answer. If so, your submission should exit.
- "`Your guess is too high.`" if your guess is higher than the answer.
- "`Your guess is too low.`" if your guess is lower than the answer.

If your program did not guess the answer after 1000 guesses, it will be terminated and receive a wrong answer.

Reading more input after receiving "`That is correct!`" will result in a time limit exceeded and printing more output will result in a wrong answer.

Make sure you flush the buffer after each write.

A testing tool is provided to help you develop your solution.

Read	**Sample Interaction 1**	**Write**
		`792`
`Your guess is too low.`		
		`999`
`Your guess is too high.`		
		`990`
`Your guess is too low.`		
		`995`
`That is correct!`		

Read	**Sample Interaction 2**	**Write**
		`42`
`That is correct!`		

Y Gamesmanship


Picture by mbiebusch via Flickr

You have been playing video games with your brother the entire day, and he has been beating you mercilessly. However, he has just left to go to the bathroom, so this is your chance! In a show of gamesmanship, you decide to take advantage of your brother's absence. You are currently playing Pong, and the ball (a point) is positioned in the middle of the board at coordinates $(0, 0)$, moving at an angle of α degrees from the x-axis. The ball will be kicked to the right, towards you paddle. Your paddle has x-coordinate 10. You reckon that you need to hit the ball just once in order to score a point: if need be, you will just move your brother's paddle out of the way.

You want to know what the y-coordinate of the ball is once its x-coordinate equals 10, so that you can move your paddle up or down accordingly.

Input

- The input consists of a floating number $-75 < \alpha < 75$, the angle (in degrees) in which the ball takes off from $(0, 0)$, measured from the positive x-axis in counterclockwise direction.

Output

- Output one floating point number: the y-coordinate of the ball once its x-coordinate equals 10. Your answer should have an absolute or relative error of at most 10^{-6}.

Sample Input 1	Sample Output 1
`45.0`	`10`

Sample Input 2	Sample Output 2
`-20.0`	`-3.6397023427`

Sample Input 3	Sample Output 3
`3.14159`	`0.5488610435`

Z Test Case Troubles

A lonely jury member in its natural habitat, making test cases in the night time

The typical jury member for the BAPC is a hard-working algorithms enthusiast. Approaching the main contest, however, the jury had some trouble finishing all test cases in time. Luckily, you can help them out by making some tricky and clever test cases!

For one problem, test cases have been made. but the jury is afraid that the worst-case is not properly tested and asks you to spice up the current test cases. The test cases consist of a list of integers. Your job is to make sure that the integers are neither in ascending nor in descending order.

Input

- The first line contains an integer $0 \leq n \leq 10^5$, the number of integers.
- Then n lines follow, where each line contains one integer $0 \leq k \leq 10^9$.

Output

Print the integers, one on each line, from the input in a non-ascending and non-descending order. If no such order exists, print "`reject`".

Sample Input 1	Sample Output 1
3 1 2 3	1 3 2

Sample Input 2	Sample Output 2
3 37 37 37	reject

Sample Input 3	Sample Output 3
5 9 8 7 6 5	9 6 8 7 5