Problem E
Guess the Number
Time limit: 1 second

I am thinking of a number between 1 and 1 000; can you guess what it is? Given a guess, I will tell you whether it is too low, too high, or correct. But you only get 10 guesses per game, so use them wisely!

Interaction

We will play several games. The first thing your submission should do is read an integer n (where $1 \leq n \leq 100$), indicating the number of games that follow.

For each game, your submission should output guesses for the correct number, in the form of an integer between 1 and 1 000 on a line on its own.

After each guess, your submission should read a response on standard input. This response is a line with one of the following:

- "lower" if the number I am thinking of is lower than your guess;

- "higher" if the number I am thinking of is higher than your guess; or

- "correct" if your guess is correct.

After guessing correctly, you should move on to the next game (if any remain), or exit immediately (otherwise). Within each game, if you guess incorrectly 10 times, you won't get any more chances.

Note: Do not forget to flush output buffers after each write. Consult the Addendum to Judging Notes for more details.

Read	Sample Interaction 1	Write
2		
		800
lower		
		300
lower		
		5
lower		
		2
higher		
		4
correct		
		999
higher		
		1000
correct		