

Pigstep

Problem ID: pigstep



Steve and Alex have a challenge for you. They are each thinking of an integer between 1 and 500, and your task is to guess their numbers. If you can guess both numbers in 10 guesses, they'll give you a rare prize: a Pigstep music disc. Are you up to the challenge?

To make it easier for you, Steve and Alex are letting you give an interval for each guess. They will then tell you if their numbers are within the intervals you guess.

Interaction

This is an interactive problem. You will interact with Steve and Alex using standard input and output.

To make a guess of an (inclusive) interval $[a, b]$, write a line to standard output in the following format:

- “ASK a b ” (where $1 \leq a \leq b \leq 500$ are the bounds of the interval)

Both Steve and Alex will then tell you if their numbers were within the interval, via a single line of input consisting of two space-separated strings. Each string will be either “yes” or “no”, representing whether or not Steve and Alex’s numbers were in your interval, respectively.

You may ask at most 10 times, after which you must guess their numbers. When you are ready to guess, write a line to standard output in the format:

- “GUESS s a ” (where $1 \leq s, a \leq 500$ are your guesses for Steve and Alex’s numbers, respectively)

Your program should terminate after making your guess.

After every ask/guess, make sure to output a newline character and flush the output stream. To do this, use:

- `fflush(stdout)` in C;
- `cout.flush()` in C++;
- `System.out.flush()` in Java;
- `stdout.flush()` in Python.

Read	Sample Interaction 1	Write
	ASK 10 20	
yes no		
	ASK 15 25	
no yes		
	ASK 14 24	
yes yes		
	ASK 14 23	
yes no		
	GUESS 14 24	
Read	Sample Interaction 2	Write
	ASK 50 100	

no yes

ASK 50 150

yes yes

ASK 90 110

yes yes

ASK 91 110

yes yes

ASK 92 110

yes yes

ASK 93 110

yes no

ASK 92 109

no yes

GUESS 110 92