

# NWERC 2020 Practice

## Problem C Cheating

The Northwestern Europe Regional Contest is coming up soon, and you do not feel confident about your programming skills. In an act of desperation you decide to put on your black hat. After doing some reconnaissance on the contest website you stumble upon a hidden page, guarded by a password prompt in a system known as the *Incredibly Clever Password Control* (ICPC). Perhaps this is where the jury stores the solutions to all the contest problems?



Password by geralt, Pixabay

After inspecting the system you make the following observations about ICPC:

- It has a very strict password policy, requiring the password to consist of exactly four lowercase letters.
- It allows at most 50 incorrect login attempts before users are blocked from the system.
- After every incorrect login attempt, ICPC reports back two numbers about the password that was entered:
  - the number of positions that were correct, and
  - the number of letters that were correct but in an incorrect position.

Use this information to log into the system.

### 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 submission must repeatedly send a line consisting of 4 lowercase letters, which represents a login attempt. The interactor then responds with one of:

- The string “correct”, indicating that the login attempt was successful, and your submission should exit.
- Two integers  $a$  and  $b$  ( $0 \leq a < 4$ ,  $0 \leq b \leq 4$ ,  $a + b \leq 4$ ), the number of positions in the entered password that were correct, and the number of letters that were correct but in an incorrect position.

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
	accp	
1 2		cacp
0 3		ocpc

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3 0

icpc

correct