Problem H. I Wanna Be the Guy

Time limit 1000 ms
Mem limit 262144 kB

There is a game called "I Wanna Be the Guy", consisting of n levels. Little X and his friend Little Y are addicted to the game. Each of them wants to pass the whole game.

Little X can pass only p levels of the game. And Little Y can pass only q levels of the game. You are given the indices of levels Little X can pass and the indices of levels Little Y can pass. Will Little X and Little Y pass the whole game, if they cooperate each other?

Input

The first line contains a single integer n ($1 \leq n \leq 100$).

The next line contains an integer p ($0 \leq p \leq n$) at first, then follows p distinct integers $a_1, a_2, ..., a_p$ ($1 \leq a_i \leq n$). These integers denote the indices of levels Little X can pass. The next line contains the levels Little Y can pass in the same format. It's assumed that levels are numbered from 1 to n.

Output

If they can pass all the levels, print "`I become the guy.`". If it's impossible, print "`Oh, my keyboard!`" (without the quotes).

Examples

Input	Output
4 3 1 2 3 2 2 4	I become the guy.

Input	Output
4 3 1 2 3 2 2 3	Oh, my keyboard!

Note

In the first sample, Little X can pass levels [1 2 3], and Little Y can pass level [2 4], so they can pass all the levels both.

In the second sample, no one can pass level 4.