Remember the Numbers

Timelimit: 10 sec

Problem description

In a game two persons alternatingly name numbers from the set $\{1, \ldots, n\}$. Every number can be named only once and you lose if you name a number twice. The game ends when all numbers have been named.

Input/Output

A number n ($n \leq 10^6$). Then you answer by `FIRST` or `SECOND`, indicating whether you want to start the game or let the opponent go first.

Then you get the number your opponent named and you have to output your number etc., if you go second. If you go first you name your first number and then read your opponent's number etc.

There is a memory limit, but it is generous. *Try to solve this problem with only a constant amount of memory.* In particular do not use arrays or other big data structures. It is sufficient to use a constant number of variables.

This is an interactive task. You have to flush the output after each number.

Sample input/output

Input	Output

	`FIRST`
	`3`
	`7`
	`1`
	`8`
	`4`
	`5`
	`6`
	`9`
	`2`

`10`	`10`

In this example the input is not only 10, but also 7, 8, 5, 9, 2, while the output of the program is interleaved `FIRST`, 3, 1, 4, 6, 2. Your program alternatingly reads and outputs a number. For clarity, the interactive part is depicted on the right side.