There are n coins. One of the coins is fake: it is slightly heavier than or lighter than the other coins, and all other coins have the same weight.

Your task is to find out the fake coin.

Interaction Protocol

Your program should read from standard input, and write to standard output. After printing each line to the standard output, you should flush the output, by calling `fflush(stdout)` *or* `cout << flush` *in C/C++,* `flush(output)` *in Pascal and* `System.out.flush()` *in Java. Please read general instructions for interactive problems for more information.*

First, read the number of test cases T $(1 \leq T \leq 15000)$. For each test case, read an integer n $(3 \leq n \leq 120)$ in the first line, then issue one or more 'Test' command, followed by an 'Answer' command.

Command	Description
`Test` L_1 $L_2 \ldots R_1$ $R_2 \ldots$	Places coins $L_1, L_2 \ldots$ on the left side and $R_1, R_2 \ldots$ on the right side $(1 \leq L_i, R_i \leq n)$, and returns the result a. $a = 1$ means $left > right$, $a = -1$ means $left < right$, $a = 0$ means $left = right$. There should be an even number of coins, and the first half are placed on the left side. No coin should appear in a command twice.
`Answer` b r	Tell us your answer. $r = 1$ means coin b is heavier than other coins, $r = -1$ means coin b is lighter than other coins. This command does not return anything.

If your program violated any of these rules (bad format, invalid arguments etc), the server will exit immediately, and you will receive Protocol Violation (PV).

Protocol Limit

For each test case, you can issue at most 5 'Test' commands, **otherwise you'll get Protocol Limit Exceeded (PLE).**

Sample Interaction

```
1
9
                    Test 1 2 3 4 5 6
-1
                    Test 4 5
0
                    Test 1 6
0
                    Test 3 2
1
                    Answer 2 -1
```