

Distributed Practice Round 2015

[A. Testrun](#)[B. sandwich](#)[C. majority](#)**D. shhhh**[E. load_balance](#)[Contest Analysis](#)[Questions asked](#) **17**

Submissions

Testrun

0pt Not attempted
0/142 users correct (0%)

sandwich

1pt Not attempted
187/205 users correct (91%)15pt Not attempted
141/178 users correct (79%)

majority

1pt Not attempted
170/176 users correct (97%)20pt Not attempted
80/167 users correct (48%)

shhhh

1pt Not attempted
110/115 users correct (96%)30pt Not attempted
69/102 users correct (68%)

load_balance

2pt Not attempted
94/101 users correct (93%)35pt Not attempted
33/88 users correct (38%)

Top Scores

iwi	105
simonlindholm	105
Murphy	105
stgatilov	105
Alexander86	105
microtony	105
eatmore	105
uwi	105
Marcin.Smulewicz	105
tczajka	105

Problem D. shhhh

This contest is open for practice. You can try every problem as many times as you like, though we won't keep track of which problems you solve. Read the [Quick-Start Guide](#) to get started.

small
1 points
2 minute timeout

The contest is finished.

large
30 points
10 minute timeout

The contest is finished.

Problem

You are at a reception. Along with a (huge) number of other people, you are seated at a round table, and listen to the speaker speak... and speak... and speak. You would like the speech to end, but that's not likely to happen, so you'd at least like to tell your friend — who sits somewhere else at the same table — how badly bored you are. However, it's rude to speak loudly. So, you'll whisper to one of your two neighbours, asking them to pass the message along. They'll then whisper to the other neighbour, and so on, until the message reaches your friend. You now need to decide which neighbour to choose so the distance traveled by the message is as short as possible, and how long is it going to go.

Input

Each person at the table has a unique integer assigned, from 0 to $N-1$, where N is the number of people at the table (including you and your friend). You are assigned the identifier 0, and your friend is assigned the identifier 1. The input library will be called "shhhh", see the sample inputs below for examples in your language. It will define three methods: `GetN()`, which will return the number N of people at the table, `GetLeftNeighbour(i)` for $0 \leq i < N$, which will return the identifier of the left neighbour of the person with identifier i , and `GetRightNeighbour(i)` for $0 \leq i < N$, which will return the identifier of the right neighbour of the person with identifier i . A single call to `GetLeftNeighbour(i)` or `GetRightNeighbour(i)` will take approximately 0.015 microseconds.

Output

Output one line, containing one word and one number, separated by a single space. The word should be "LEFT" if it is faster to pass the message to your left neighbour, "RIGHT" if it is faster to pass the message to your right neighbour, or "WHATEVER" if the distance is the same in both directions (quotes around all words are for clarity only). The number should be the distance the message will have to travel (that is, the number of people who will hear the message, including your friend, but not including you).

Limits

Each node will have access to 128MB of RAM, and a time limit of 4 seconds.

Small input

Your solution will run on 10 nodes.
 $2 \leq \text{GetN}() \leq 10^7$.

Large input

Your solution will run on 100 nodes.
 $2 \leq \text{GetN}() \leq 10^9$.

Sample

Input	Output
See input files below.	For sample input 1: WHATEVER 1
	For sample input 2: RIGHT 1
	For sample input 3: LEFT 2

Note: the same problem idea (authored by Onufry Wojtaszczyk, Robert Obryk and Adam Polak) was used by us in the Algorithmic Engagements contest in 2014.

Sample input libraries:

Sample input for test 1: [shhhh.h](#) [CPP] [shhhh.java](#) [Java]

Sample input for test 2: [shhhh.h](#) [CPP] [shhhh.java](#) [Java]

Sample input for test 3: [shhhh.h](#) [CPP] [shhhh.java](#) [Java]

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