03 : 12 : 18
HRS MIN SEC

2 LIVE EVENTS

Shopee Programming Contest #2

LIVE INVITE ONLY ACCESS

Jul 25, 2020, 01:00 PM WIB - Jul 25, 2020, 04:15 PM WIB

Connectivity

Max. score: 20

In Shopee Data Center, there are many switches and some of the switches are interconnected to form a network. Sometimes, we add a new connection to the network and if we find that there is some issue, we may remove the last added connections. You will need to solve a similar problem.

You are given an empty network with **N** switches (numbered 1 to N) and no connections between switches. You will also face **Q** scenarios in chronological order. Each scenario can be any of the following:

PUSH u v : You have to add a new connection between switches u and v. (u ≠ v, 1 <= u, v <= N). Note that there can be multiple connections between the same pair of switches.

POP : From all the connections currently present in the network, remove the one that was added most recently. There will be at least one connection in the network when this scenario is given.

Also, after performing the operation in each scenario, print the number of connected components formed by the switches in this network.

Input

The first line of test case begins with integer Q (1 <= Q <= 5 * 10^5) and N (1 <= N <= 5 * 10^5) indicating the number of scenarions and number of switches in the network. Next, Q lines will each contain a scenario as described above.

Output

For each query, you will need to print the answer in a separate line.

SAMPLE INPUT

```
12 5
PUSH 1 2
PUSH 2 3
PUSH 1 4
POP
PUSH 1 3
PUSH 4 5
PUSH 1 4
POP
POP
```

```
POP
POP
POP
```

SAMPLE OUTPUT

```
4
3
2
3
3
2
1
2
3
3
4
5
```

Time Limit:	1.0 sec(s) for each input file.
Memory Limit:	128 MB
Source Limit:	1024 KB
Marking Scheme:	Score is assigned when all the testcases pass.
Allowed Languages:	Bash, C, C++, C++14, C++17, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, Java 14, JavaScript(Rhino), JavaScript(Node.js), Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, Python 3.8, R(RScript), Racket, Ruby, Rust, Scala, Swift-4.1, Swift, TypeScript, Visual Basic

CODE EDITOR

Save C++14 (g++ 5.4.0)

```
/*
// Sample code to perform I/O:

cin >> name;                                // Reading input from STDIN
cout << "Hi, " << name << ".\n";           // Writing output to STDOUT

// Warning: Printing unwanted or ill-formatted data to output will cause the test cases to fail
*/

// Write your code here

```

1:1 vs 2

LIVE EVENTS

Provide custom input

COMPILE & TEST SUBMIT

Tip: You can submit any number of times you want. Your best submission is considered for computing total score.

Your Rating:

View all comments

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