C

RECENT SUBMISSIONS

RESULT

8

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30

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LANGUAGE

Java 8

C++17

Java 8

C

C++14

Duthon 20

View All

Python 3.8

DEVELOPERS

LevelZero

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INSTRUCTIONS

PROBLEMS

Jul 25, 2020, 02:00 PM CST - Jul 25, 2020, 05:15 PM CST

SUBMISSIONS

LEADERBOARD

Problems / Connectivity Connectivity Max. score: 20 This problem is no longer available for practice. Apology for any inconvenience!

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.

ANALYTICS

JUDGE

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 \neq 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		% 4	SAMPLE OUTPUT	% 42
12 5			4	
PUSH 1 2			3	
PUSH 2 3			2	
PUSH 1 4			3	
POP			3	
PUSH 1 3			2	
PUSH 4 5			1	
PUSH 1 4			2	
POP			3	
POP			3	
POP			4	
POP			5	
POP				
ne Limit:	1.0 sec(s) for each input file.			
emory Limit:	128 MB			
urea Limite	1034 KB			

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 3.8, R(RScript), Racket, Ruby, Rust, Scala, Swift-4.1, Swift, TypeScript, Visual Basic

CODE EDITOR

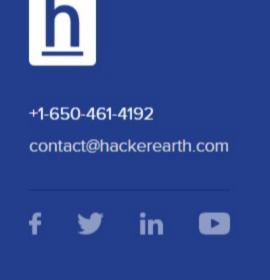
```
Save Python 3.8 (python 3.8.2)
      def solver():
          Q, N = [int(i) for i in input().split()]
          components = []
          history_stack = []
          for i in range(N):
              components.append([i])
          history_stack.append(components.copy())
          for i in range(Q):
11
               query = input().split()
12
               if query[0] == "PUSH":
                   switch_one = int(query[1]) - 1
14
                   switch_two = int(query[2]) - 1
15
                   index_s_one = -1
                   index_s_two = -1
17
                   for idx, component in enumerate(components):
                        if switch_one in component:
                            index_s_one = idx
                        if switch_two in component:
21
                            index_s_two = idx
                   if index_s_one != index_s_two:
                        component_one = components.pop(index_s_one)
24
                        component_two = components.pop(index_s_two - 1) if index_s_one < index_s_two else</pre>
     components.pop(index_s_two)
                        merged_component = component_one + component_two
                                                                                                                   1:1 vscode

☑ Provide custom input

  COMPILE & TEST
                     SUBMIT
```

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