2 Questions Total Marks: 200.0

2 Programming Questions

1. Min-Max Weighted Edge + 100.0

2. Colorful Buildings + 100.0

Question 1 Max. Marks 100.00

Min-Max Weighted Edge

Given a tree with N nodes and $N-1$ bidirectional edges, and given an integer S. Now, you have to assign the weights to the edges of this tree such that:
1. the sum of the weights of all the edges is equal to S
2. for every possible diameter of the tree, the maximum weight over all the edges covered by its path is the minimum possible

You have to output this minimum possible edge weight.

Note: The diameter of a tree is the number of nodes on the longest path between two leaves in the tree.

Input Format

The first line of the input contains an integer T, the total number of test cases.
The first line of each test case contains two space-separated integers N and S, the number of nodes in a tree and the integer S as mentioned in the problem statement.
Then the $N-1$ lines follow, each containing two space-separated integers u and v representing that there is a bidirectional edge between the nodes u and v.

Output Format

For each test case output the minimum possible edge weight which satisfies the above-mentioned conditions.

Constraints

$1 \leq T \leq 10$
$1 \leq N \leq 2 \times 10^3$
$1 \leq u, v \leq N$
$1 \leq S \leq 10^9$

Sample Input

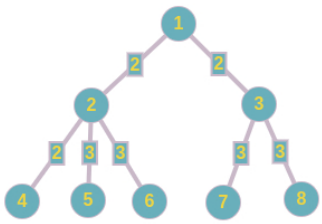
```
2
8 18
1 2
1 3
2 4
2 5
2 6
3 7
3 8
7 15
1 2
1 3
1 4
2 5
2 6
3 7
```

Sample Output

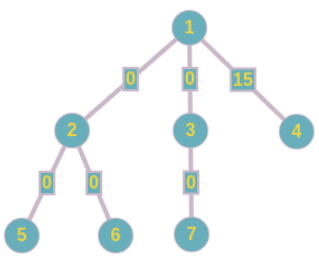
```
3
0
```

Explanation

Sample test case 1 : Given below is one of the best ways to assign weights to the edges



Sample test case 2 : Note that there are only two possible diameters of the tree: 5 to 7 and 6 to 7 , so we can assign S to the edge $\{1, 4\}$ and for every possible diameter of the tree, the maximum weight over all the edges covered by its path is 0



Note: Your code should be able to convert the sample input into the sample output. However, this is not enough to pass the challenge, because the code will be run on multiple test cases. Therefore, your code must solve this problem statement.

Time Limit: 1.0 sec(s) for each input file

Memory Limit: 256 MB

Source Limit: 1024 KB

Marking Scheme: Marks are awarded if any testcase passes

Allowed Languages: Bash, C, C++, C++14, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, JavaScript(Rhino), JavaScript(Node.js), TypeScript, Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, Racket, Ruby, Rust, Scala, Swift, Swift-4.1, Visual Basic

New Submission | All Submissions

Bash (GNU bash, version 4.3 ▾ Save

```
1 # Sample bash code
2
```

1:1

Press Ctrl/Command+Spacebar for autocomplete suggestions (accuracy dependent on connection stability).

Provide custom input

COMPILE & TEST SUBMIT

Next Question ›