

# Waves is back!

Problem	Submissions	Leaderboard	Discussions
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### Waves 2021 is in progress!

There are too many stalls this time and each stall owner wants their stall to do great.

Ansh the Waves Coordinator finds a great opportunity in this, he wants to find the stall which will most likely have the maximum student interaction, he knows you are really good at Algorithms and comes to you for help!

After looking at the map you realise that the collection of paths between every stall can be modelled as a Binary Tree. Seeing this you take it upon yourselves to find the best stall location!

You associate a score to every stall  $S$

$$Score(S) = -|\{(A, B) \mid \exists k \ S \notin path_k(A, B)\}|$$

Then return the stall with the maximum score(if there are multiple such stalls output the one with the smallest index), so in a sense the optimal stall location as people will be passing through this stall often.

Note:

$$path_k(A, B) = \{A, X_0^k, X_1^k, X_2^k, \dots, X_{f(k)-1}^k, X_{f(k)}^k, B\} \text{ where } k \text{ indexes over different paths between } A \text{ and } B$$

Note:

Do NOT count (1, 3) and (3, 1) seperately

#### Input Format

The first line contains the number of test cases,  $T$

The first line of each test case contains a single integer  $N$  the number of stalls

Then  $N$  lines follow in the format (3 integers, seperated by spaces)

**Stall\_Index Index\_of\_Left\_Child Index\_of\_Right\_Child**

Note:-1 denotes NULL child

Note The stall indexing starts from **1**

#### Constraints

$$N \leq 10^6$$

#### Output Format

For each test case output the index of the best stall in a new line

#### Sample Input 0

```
1
4
1 2 3
2 4 -1
3 -1 -1
4 -1 -1
```

#### Sample Output 0

```
1
```

#### Explanation 0



$$Score(1) = -|\{(2, 4)\}| = -1$$

$$Score(2) = -|\{(1, 3)\}| = -1$$

$$Score(3) = -|\{(1, 2), (1, 4), (2, 4)\}| = -3$$

$$Score(4) = -|\{(1, 2), (1, 3), (2, 3)\}| = -3$$

f t in

Submissions: 43  
Max Score: 100  
Difficulty: Medium

Rate This Challenge:  
☆☆☆☆☆

More

Current Buffer (saved locally, editable)  

C

 

1

▼

#include <stdio.h>

2

▼

#include <string.h>

3

▼

#include <math.h>

4

▼

#include <stdlib.h>

5

▼

6

▼

int main() {

7

▼

8

▼

/\* Enter your code here. Read input from STDIN. Print output to STDOUT \*/

9

▼

return 0;

10

▼

}

11

▼

Line: 1 Col: 1

 Upload Code as File

☐ Test against custom input

Run Code

Submit Code