Test Time [GMT 0-3]
2022-08-18 14:00 ~ 17:00

Remaining Time

Status By Problem

Problem	Status Try Count	Elapsed Time
Problem1	(0/10)	00:02:02

2022Year August, 1st [Qualification Test] SW ADV problem for August 2022 - Fun Family Stories

Problem1

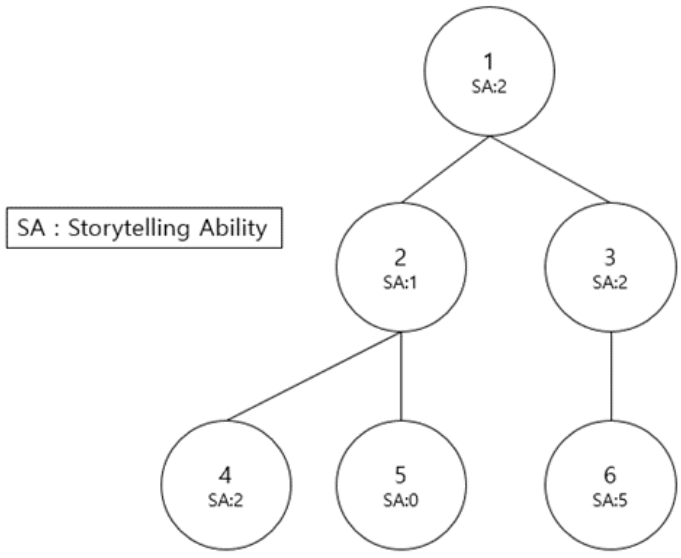
Fun Family Stories

Try Count0Count Total Count 10Cou More View

Submission Time | Solution | Result

Time Limit	Up to 50 test inputs must be executed within 1 second using C/C++, or 1.5 seconds using Java
Memory Limit	Stack : 1 Mbytes / Total : 256 Mbytes
Maximum Number of Submission	10
Code Length Limit	128 Kbytes
Evaluation	When you submit an answer, the result will be shown in real time as below. "Pass" means that the answer is correct for all of the test inputs "Fail" means that the answer is incorrect for all of part of the test inputs ※ Test Input : a data which is automatically inputted when submitted code is run in the test system

Sungyoung's family of N number of members has a tradition of passing on stories from parents to children. How good the stories are can be expressed in objective numbers. The stories get better, dramatized by each person who tells the story with their 'storytelling ability'.
When a story told is K times more fun than its original version, the story is considered a new one and therefore is **given a new number**. From that generation who told the new story, parents only pass down the new story. Sungyoung became curious how many stories his family had told all this time. Let's **find out the total number of stories told**.



[Figure]

The example above is a family tree where N=6 and K=2. Each node of the family tree has the number given to each family member and their storytelling ability.
Person 1 first tells Story 1 of which fun level is 2, as his storytelling ability.
Person 2 dramatized Story 1 and made its fun level 3, and Person 3 dramatized again and made its fun level 4; as the fun level of Story 1 is now two times more fun from its original form, a new number is given to name Story 2.
Continuing with the same rule, Person 4 was told Story 1 with fun level 3 and dramatized it to tell Story 3 with fun level 5, as the fun level is now more than two times that of the original Story 1; Person 6

dramatized Story 2 and created Story 4 with fun le
the original Story 2.
In conclusion, a total of 4 stories are created in the case above.

[Constraints]
1. The number of family members, N, is an integral number from 2 to 1000, including 2 and 1000.
2. Storytelling ability is an integral number from 0 to 1000, including 0 and 1000.
3. Node 1 is the first ancestor whose storytelling ability is always 1 or higher.
4. K is an integral number from 2 to 10, including 2 and 10.

[Input]
In the first line, the number of test cases (T) is given, and then T number of test cases will be given. In the first line of each test case, N and K are given with a space in between. In the next line, the storytelling abilities of N number of family members are given with a space in between. In the following line, the node number of the parents of N number of family members are given with a space in between. As Node 1 does not have parents, 0 is given.

[Output]
Print the answers to each test case. Each test case begins with “#x” (x is a test case number, starts from 1), followed a space and then the answer to each case.

[Example of Input and Output]
(Input)
3
6 2
2 1 2 2 0 5
0 1 1 2 2 3
2 2
1 0
0 1
4 2
1 4 2 1
0 3 4 1

(Output)
#1 4
#2 1
#3 4

(Output for sample_input.txt)
#1 4
#2 1
#3 4
#4 5
#5 2
#6 7
#7 5
#8 5
#9 3
#10 6
#11 6
#12 11
#13 45
#14 9
#15 16
#16 9
#17 91
#18 230
#19 18
#20 1000

SCS
SW Certificate System

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Sample Input : sample_input.txt

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Language ◉C(gcc 4.8.2, C11) ○C++(g++ 4.8.2, C++11) ○Java(JDK 1.8.0_121)

Initialize the source code

```
1  ////////
2  // You can add and modify values and implementations if needed.
3  // Beginning with the SW test, you must directly write your input and output code according
4  // You must use standard input and output.
5  // You may use necessary freopen syntax provided as below while working on your desktop.
6  // For input, using scanf is recommended.
7  // e.g.) When N number of int type integers in a row are input (with a space in between)
8  //     for(int i=0; i<N; i++) scanf("%d", &myvalue[i]);
9  ////////
10 //#include <stdio.h>
11
12 int main() {
13
14     // freopen function below opens input file in read only mode, and afterward,
15     // the program will read from input file instead of standard(keyboard) input.
16     // To test your program, you may save input data in input file,
17     // and use freopen function to read from the file when using scanf function.
18     // You may remove the comment symbols(//) in the below statement and use it.
19     // But before submission, you must remove the freopen function or rewrite comment symbol
20     //freopen("sample_input.txt", "r", stdin);
21
22     // If you remove the statement below, your program's output may not be recorded
23     // when your program is aborted due to the time limit.
24     // For safety, please use setbuf(stdout, NULL); statement.
25     setbuf(stdout, NULL);
```

Attach file Choose File No file chosen

* If you upload the source file, the source content is automatically entered.
* Attach the document after saving in ANSI type. Characters may not display correctly if not saved in ANSI type.

TEST

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