



Утегенов Батырхан Елембетұлы [ADS-Lab-04]: Submit a solution

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Submit a solution for D-105816. Aureole

Time limit: 1 s

Real time limit: 5 s

Memory limit: 256M

Problem D: 105816. Aureole

You are given a permutation of size n . Create an empty BST, and insert into BST values p_1, p_2, \dots, p_n in this order. You need to find how many levels there and sum the of values for each level.

Input format

In the first line there is a single integer $1 \leq n \leq 5000$ size of permutation. Second line contains n distinct numbers from 1 to n - the permutation.

Output format

In first line output k - maximum level in bst. In second line output k integers - sum of values for each level.

Examples

Input

```
1
1
```

Output

```
1
1
```

Input

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

Output

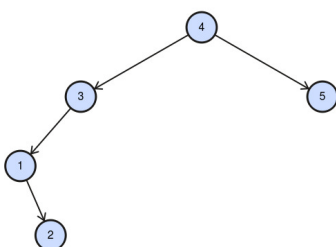
```
4
4 8 1 2
```

Notes

Level of vertex is defined as:

Level of root is 0, and level of each non-root vertex is (level of it's parent) + 1.

In second testcase, BST looks like this.



There are 4 levels, and sum for each level is 4, 3 + 5, 1, 2.

Submit a solution

Language:

g++ - GNU C++ 11.4.0

File

Choose File

 No file chosen

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Send!

Previous submissions of this problem

Run ID	Time	Size	Problem	Language	Result	Failed test	View source	View report
1881	1006:53:48	1507	D	g++	OK	N/A	View	View

- A
- B
- C
- D
- E
- F
- G
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- I
- J

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