Chef-Detective

Problem Code: **CHEFDETE**

All submissions for this problem are available.

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Read problems statements in Mandarin Chinese, Russian and Vietnamese as well.

Chef is a private detective. He was asked to investigate a case of murder in the city of Frangton.

Chef arrived in Frangton to find out that the mafia was involved in the case. Chef spent some time watching for people that belong to the clan and was able to build a map of relationships between them. He knows that a mafia's organizational structure consists of a single Don, heading a hierarchical criminal organization. Each member reports exactly to one other member of the clan. It's obvious that there are no cycles in the reporting system of the mafia.

There are **N** people in the clan, for simplicity indexed from **1** to **N**, and Chef knows who each of them report to. Member **i** reports to member R_i.

Now, Chef needs to identfy all potential killers to continue his investigation. Having considerable knowledge about the mafia's activities, Chef knows that the killer must be a minor criminal, that is, one of the members who nobody reports to. Please find the list of potential killers for Chef. Since Don reports to nobody, his R_i will be equal to **0**.

Input

The first line of input contains one integer **N**.

Next line has **N** space-separated integers, the i^{th} integer denotes R_i — the person whom the i^{th} member reports to.

Output

Output a list of space-separated integers in ascending order — the indices of potential killers.

Constraints

Subtasks

- **Subtask #1 [50 points]: N ≤ 10000**
- **Subtask #2 [50 points]: No additional constraints**

Example

Input:

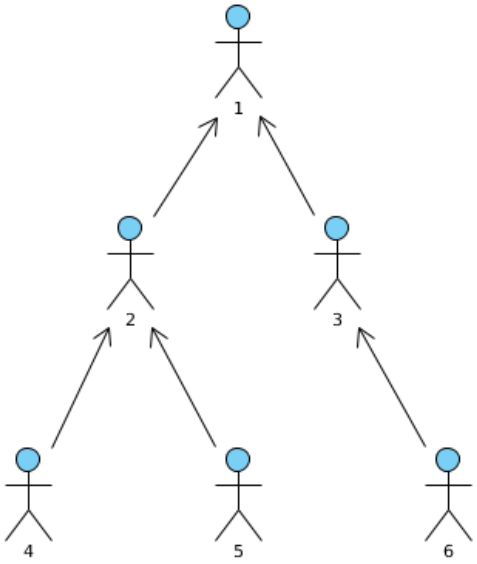
```
6
0 1 1 2 2 3
```

Output:

```
4 5 6
```

Explanation

The reporting structure:



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Tags:	cakewalk, cenadar, feb16, hashing, tree
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Time Limit:	1 secs
Source Limit:	50000 Bytes
Languages:	C, CPP14, JAVA, PYTH, PYTH 3.5, PYPY, CS2, PAS fpc, PAS gpc, RUBY, PHP, GO, NODEJS, HASK, SCALA, D, PERL, FORT, WSPC, ADA, CAML, ICK, BF, ASM, CLPS, PRLG, ICON, SCM qobi, PIKE, ST, NICE, LUA, BASH, NEM, LISP sbcl, LISP clisp, SCM guile, JS, ERL, TCL, PERL6, TEXT, SCM chicken, CLOJ, FS

Comments

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CodeChef was created as a platform to help programmers make it big in the world of algorithms, **computer programming** and **programming contests**. At CodeChef we work hard to revive the geek in you by hosting a **programming contest** at the start of the month and another smaller programming challenge in the middle of the month. We also aim to have training sessions and discussions related to **algorithms**, **binary search**, technicalities like **array size** and the likes. Apart from providing a platform for **programming competitions**, CodeChef also has various algorithm tutorials and forum discussions to help those who are new to the world of **computer programming**.

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