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Rabbit Hole (Chapter 1)

Level 2 Time limit: 5s Not started

Note: Chapter 2 is a harder version of this puzzle.

You're having a grand old time clicking through the rabbit hole that is your favorite online encyclopedia.

The encyclopedia consists of N different web pages, numbered from 1 to N. Each page i contains nothing but a single link to a different page L_i.

A session spent on this website involves beginning on one of the N pages, and then navigating around using the links until you decide to stop. That is, while on page i, you may either move to page L_i, or stop your browsing session.

Assuming you can choose which page you begin the session on, what's the maximum number of different pages you can visit in a single session? Note that a page only counts once even if visited multiple times during the session.

Constraints

$2 \leq N \leq 500{,}000$
$1 \leq L_i \leq N$
$L_i \neq i$

Sample test case #1

```
N = 4
L = [4, 1, 2, 1]
```

```
Expected Return Value = 4
```

Sample test case #2

```
N = 5
L = [4, 3, 5, 1, 2]
```

```
Expected Return Value = 3
```

Sample test case #3

```
N = 5
L = [2, 4, 2, 2, 3]
```

```
Expected Return Value = 4
```

Sample Explanation

In the first case, you can visit all 4 pages in a single browsing session if you begin on page 3. For example, you can visit the sequence of pages $3 \to 2 \to 1 \to 4$.

In the second case, you can only visit at most 3 different pages — for example, the sequence of pages $3 \to 5 \to 2$.

In the third case, you can only visit at most 4 different pages — for example, the sequence of pages $5 \to 3 \to 2 \to 4$.

The code editor for solving puzzles is only available on wider screens.

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