# Ramp

James is taking a course that runs over $N$ days. The $i$-th day has a *difficulty level* of $d_i$. He finds the course quite daunting, so he would like to choose a starting day $s$ and an ending day $e$ $(s \leq e)$, which defines a range of consecutive days he will attend, where:

- The first day can have any difficulty level.
- For each subsequent day, its difficulty is **exactly** one more than the previous day.

Subject to these constraints, James would like to attend as many days of the course as possible. What is the maximum number of days James can attend?

## Subtasks and Constraints

For all subtasks, you are guaranteed that:

- $2 \leq N$.
- $1 \leq d_i \leq 1\,000\,000\,000$ for all $i$.

Additional constraints for each subtask are given below.

| Subtask | Points | Additional constraints |
|---------|--------|------------------------|
| 1 | 50 | $N \leq 2000$ |
| 2 | 50 | $N \leq 100\,000$ |

## Input

- The first line of input contains the integer $N$.
- The second line contains $N$ integers $d_1, d_2, \ldots, d_N$.

## Output

Output a single integer: the maximum number of days James can attend.

| Sample Input 1 | Sample Input 2 | Sample Input 3 |
|---|---|---|

```
7
15 6 7 8 1 9 6
```

```
4
12 13 14 15
```

```
3
200 300 400
```

| Sample Output 1 | Sample Output 2 | Sample Output 3 |
|---|---|---|

```
3
```

```
4
```

```
1
```

## Explanation

In Sample Input 1, James could choose $s = 2$ and $e = 4$, for a total of 3 days (15, **6, 7, 8**, 1, 9, 6).

In Sample Input 2, James could choose $s = 1$ and $e = 4$, for a total of 4 days (**12, 13, 14, 15**).

In Sample Input 3, James could choose $s = 3$ and $e = 3$, for a total of 1 day (200, 300, **400**).