Problem N
Nancy's Numbers

Time limit: 1 second

Memory limit: 2048 megabytes

Problem Description

Nancy has a huge collection of n positive integers $a_1, a_2, \cdots, a_n$. Unfortunately, she is not satisfied since there are duplicate integers in them.

To make Nancy happy, you can perform the following operation any number of times (possibly zero): Select an integer a_i from $a_1, a_2, \ldots, a_n$, and add 1 to a_i.

What is the minimum number of operations required so that all the integers in $a_1, a_2, \cdots, a_n$ are distinct (in other words, all integers are different)?

Input Format

The first line of the input contains an integer n. The second line of the input contains n integers $a_1, a_2, \cdots, a_n$.

Output Format

Print the minimum number of operations required to make all integers in $a_1, a_2, \cdots, a_n$ distinct.

Technical Specification

- $1 \leq n \leq 2 \times 10^5$
- $1 \leq a_i \leq 10^9$ for $i = 1, 2, \ldots, n$

Sample Input 1

```
7
3 1 4 1 5 9 2
```

Sample Output 1

```
5
```

Sample Input 2

```
1
77777
```

Sample Output 2

```
0
```

Sample Input 3

```
5
100 100 100 100 100
```

Sample Output 3

```
10
```