A. Attendance Sheet

Mr. X is a teacher in the Elite Outstanding International School (EOI School), one of his tasks as a teacher is to fill the Attendance Sheet, where he notes down the IDs of the attending students, in order to save records of absent students.

In EOI School, students in the same range of IDs are assigned to the same class. Mr. X's class has **C** students with IDs from **A** to **B** inclusively. **i.e.** for all possible IDs **i** ($A \le i \le B$), there exists a student assigned to Mr. X's class whose ID is **i**, and **B** - **A** + 1 = **C**.

Today is the first day in school and Mr. X normally wants to take the attendance and know the number of absent students. He knows the IDs of the present attending students. But he doesn't know the range of the IDs of his students nor how many students are assigned to his class, in other words he doesn't know **A**, **B** nor **C**.

So he is now wondering what could be the minimum possible number of absent students in his class considering the IDs of the present attending students?

Input Format

The first line of input contains an integer **N**, which represents the number of present students who are attending the first session with Mr. X on the first day of school.

The next **N** lines contains **N** distinct positive integers, one per line, which represents the IDs of the students who are attending the first session. All IDs will not exceed 1,000,000.

Output Format

Output one line containing a single integer, the minimum possible number of absent students.

Subtasks

Subtask 1 – 12 Points

- ❖ $N = 1$

Subtask 2 – 14 Points

- ❖ $N = 2$

Subtask 3 – 27 Points

- ❖ $N = 5$
- ❖ IDs are given in ascending order.

Subtask 4 – 23 Points

- ❖ $1 \leq N \leq 1,000$
- ❖ IDs are given in ascending order.

Subtask 5 – 24 Points

- ❖ $1 \leq N \leq 1,000$

Examples

#	Input	Output
1	3 5 2 3	1
2	1 58	0

Examples Explanation

In the first example, A could have possibly been equal to 2 and **B** could have possibly been equal to 5, which means only student of ID 4 is absent.