

# rainbowrabbit

Time Limit: 1 second  
Memory Limit: 64 MB

## 1 Problem Description

Whiterabbit has gathered his fellow rabbits together for a very important meeting. There are  $C$  different colour rabbits, and the  $i^{\text{th}}$  colour has  $X_i$  rabbits of that colour attending the meeting.

In line with standard rabbit traditions, Whiterabbit sits at the front of the table while the rest of the rabbits form a **rainbow rabbit sequence**. In a **rainbow rabbit sequence**, some  $K$  rabbits are arranged in a row such that among any consecutive  $C$  rabbits, every colour appears exactly once.

As not all of the rabbits can join the meeting if a **rainbow rabbit sequence** must be formed, Whiterabbit wants to know the maximum length  $K$  of a **rainbow rabbit sequence** that can be formed by the rabbits that have attended the meeting.

## 2 Input Format

The input format is as follows:

- The first line of input will contain 1 integer,  $C$ .
- The next line of input will contain  $C$  spaced integers, the  $i^{\text{th}}$  of which represents  $X_i$ .

## 3 Output Format

The output format is as follows:

- The first line and only line of output should contain 1 integer, maximum length of a **rainbow rabbit sequence** that can be formed.

## 4 Subtasks

Subtask	Score	$C$	Additional Constraints
1	15	$1 \leq C \leq 4$	
2	23	$1 \leq C \leq 1000$	$X_i \leq 1000$
3	27	$1 \leq C \leq 1000$	
4	35	$1 \leq C \leq 10^6$	
5	0	Sample Testcases	
For all subtasks: $1 \leq C \leq 10^6, 1 \leq X_i \leq 10^9$			

## 5 Examples

standard input	standard output
5 2 2 2 2 2	10
3 1 1 3	4
6 10 10 11 10 12 3	23

Explanation for Sample Input 2: Suppose the 3 colours are red (R), blue (B) and green (G) respectively. Then, two possible ways of obtaining a **rainbow rabbit sequence** of length 4 is GRBG or GBRG.