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Cut the sticks

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Problem

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Problem Statement

You are given N sticks, where the *length* of each stick is a positive integer. A *cut operation* is performed on the sticks such that all of them are reduced by the length of the smallest stick.

Suppose we have six sticks of the following lengths:

5 4 4 2 2 8

Then, in one *cut operation* we make a cut of length 2 from each of the six sticks. For the next *cut operation* four sticks are left (of non-zero length), whose lengths are the following:

3 2 2 6

The above step is repeated until no sticks are left.

Given the length of N sticks, print the number of sticks that are left before each subsequent *cut operations*.

Note: For each *cut operation*, you have to recalculate the length of smallest sticks (excluding zero-length sticks).

Input Format

The first line contains a single integer N .

The next line contains N integers: a_0, a_1, \dots, a_{N-1} separated by space, where a_i represents the length of i^{th} stick.

Output Format

For each operation, print the number of sticks that are cut, on separate lines.

Constraints

 $1 \leq N \leq 1000$ $1 \leq a_i \leq 1000$

Sample Input #00

```
6
5 4 4 2 2 8
```

Sample Output #00

```
6
4
2
1
```

Sample Input #01

8
1 2 3 4 3 3 2 1

Sample Output #01

8
6
4
1

Explanation

Sample Case #00 :

sticks-length	length-of-cut	sticks-cut
5 4 4 2 2 8	2	6
3 2 2 _ _ 6	2	4
1 _ _ _ _ 4	1	2
_ _ _ _ _ 3	3	1
_ _ _ _ _	DONE	DONE

Sample Case #01


sticks-length	length-of-cut	sticks-cut
1 2 3 4 3 3 2 1	1	8
_ 1 2 3 2 2 1 _	1	6
_ _ 1 2 1 1 _ _	1	4
_ _ _ 1 _ _ _ _	1	1
_ _ _ _ _ _ _ _	DONE	DONE




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Difficulty: Easy

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Java 8   

```
1 import java.io.*;
2 import java.util.*;
3
4 public class Solution {
5     static int calMin(int a[]){
6         int min=1001;
7         for(int i=0;i<a.length;i++){
8             if(a[i]!=0 && a[i]<min)
9                 min=a[i];
10        }
11        return min;
12    }
13
14    static boolean checkEmpty(int a[]){
15        boolean flag=true;
16        for(int i=0;i<a.length;i++){
17            if(a[i]!=0)
18                flag=false;
```

```
19     }
20     return flag;
21 }
22 public static void main(String[] args) {
23     Scanner s=new Scanner(System.in);
24     int n=s.nextInt();
25     int a[]=new int[n];
26     for(int i=0;i<n;i++)
27         a[i]=s.nextInt();
28
29     int count=1001,min=0;
30     while(!checkEmpty(a)){
31         count=0;
32         min=calMin(a);
33         for(int i=0;i<n;i++){
34             if(a[i]!=0){
35                 a[i]-=min;
36                 count++;
37             }
38         }
39         System.out.println(count);
40     }
41 }
42 }
```

Line: 1 Col: 1

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