NOIP '18 P2 - Currency System

Time limit: 1.0s **Memory limit:** 512M

In a coin system (n, a), there are coins of n different values. The i-th coin in the system has value a_i, and you may assume each kind of coin has unlimited supply. Now you are given a coin system (n, a), and you need to find an equivalent coin system (m, b) such that m is minimized (i.e. the coin system having the minimum number of denominations). Here, "equivalent" means for any nonnegative value x, x can be expressed in one currency system if and only if it can be expressed in the other currency system.

Input Specification

The first line contains an integer T denoting the number of test cases.

For each test case, the first line contains an integer n. In the following line, there are n space-separated integers a_i denoting the values of the coins in the coin system.

Output Specification

The output contains T lines. For each test case, output a line containing an integer denoting the minimum m such that (m, b) is equivalent to coin system (n, a).

Sample Input 1

```
2
4
3 19 10 6
5
11 29 13 19 17
```

Sample Output 1

```
2
5
```

Explanation

In the first test case, the currency system $(2, [3, 10])$ is equivalent to the given currency system, and it is easy to see there are no equivalent currency systems with $m < 2$. As a result, the answer is 2.

In the second test case, it can be shown that there does not exist any equivalent currency system with $m < n$, so the answer is 5.

Additional Samples

Additional samples can be found here.

Constraints

Test Case	n	a_i
1~3	$= 2$	≤ 1000
4-6	$= 3$	
7-8	$= 4$	
9-10	$= 5$	
11~13	≤ 13	≤ 16
14~16	≤ 25	≤ 40
17~20	≤ 100	$\leq 25\,000$

For all test cases, $1 \leq T \leq 20$, $n, a_i \geq 1$.