# Problem F: Reduced ID Numbers

T. Chur teaches various groups of students at university U. Every U-student has a unique Student Identification Number (SIN). A SIN $s$ is an integer in the range $0 \leq s \leq MaxSIN$ with $MaxSIN = 10^6 - 1$. T. Chur finds this range of SINs too large for identification within her groups. For each group, she wants to find the smallest positive integer $m$, such that within the group all SINs reduced modulo $m$ are unique.

## Input

On the first line of the input is a single positive integer $N$, telling the number of test cases (groups) to follow. Each case starts with one line containing the integer $G$ ($1 \leq G \leq 300$): the number of students in the group. The following $G$ lines each contain one SIN. The SINs within a group are distinct, though not necessarily sorted.

## Output

For each test case, output one line containing the smallest modulus $m$, such that all SINs reduced modulo $m$ are distinct.

| **Sample input** | **Sample output** |
|---|---|
| 2<br>1<br>124866<br>3<br>124866<br>111111<br>987651 | 1<br>8 |

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