Problem A
Sum

Time Limit: 2 seconds

Problem Description

I have a New Taiwan Dollars in my pocket, and you have b New Taiwan Dollars in you pocket. Please write a program to compute how much money there is in our pockets in total.

Input Format

The first line contains an integer T indicating the number of test cases, where $T \leq 25$. Each test case has exactly one line. This line contains two integers a and b separated by a blank, where $1 \leq a \leq 1000$ and $1 \leq b \leq 1000$.

Output Format

For each test case, output one line containing one integer s if we have s New Taiwan Dollars in our pockets in total.

Sample Input

```
2
5 3
7 5
```

Sample Output

```
8
12
```

Problem B
4-Digit Lock

Time Limit: 2 seconds

Problem Description

Erik locks his bicycle with a 4-digit lock. He is not good at remembering the secret combination which can unlock his bicycle, but he is really good at multiplying integers efficiently. He attached a list of n non-negative integers $a_1, \ldots, a_n$ to his bicycle, and the secret combination can be derived from their product $p = a_1 \times a_2 \times \cdots \times a_n$. If $p < 10000$, then the secret combination is the 4-digit representation of p, i.e., padding zeroes to the left of p if $p < 1000$. If $p \geq 10000$, p is divisible by 10^k and p is not divisible by 10^{k+1}, then the secret combination is the last four digits of $q = \frac{p}{10^k}$. If q does not have 4 digits, then padding zeroes to the left of q.

For example, if $p = 120$, then the secret combination is `0120`. If $p = 10100$, then the secret combination is `0101`. If $p = 2344680$, then the secret combination is `4468`. Write a program to crack Erik's lock, and ride Erik's bicycle for free.

Input Format

The first line contains an integer T indicating the number of test cases, where $T \leq 50$. Each test case has exactly two lines. The first line contains an integer n where $1 \leq n \leq 50000$. n is the number of integers in the list on Erik's bicycle. The second line contains n non-negative integers $a_1, \ldots, a_n$ where $a_i \leq 10^9$ for $i \in \{1, \ldots, n\}$. Note that the secret combination can be obtained from $p = a_1 \times \cdots \times a_n$.

Output Format

For each test case, output the secret combination on a line.

Sample Input

```
3
5
1 2 3 4 5
5
2 5 5 2 101
5
234 3 167 2 10
```

Sample Output

```
0120
0101
4468
```