

I don't have a good name for this one...

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

points: 100 · problem code: eulernumber · author: Parsa

Ideas come to me *naturally*. Only two people in the entire history of mankind have ever said that with truth — Parsa and Leonhard.

Input

The first line contains a single integer t ($1 \leq t \leq 13$) — the number of test cases. Each test case contains n lines. The i -th line contains an integer a_i ($1 \leq a_i \leq 9$). The sum of n over all test cases doesn't exceed 65.

Output

For each test case, print one integer — the answer.

Constraints

$$1 \leq t \leq 13 \quad 1 \leq a_i \leq 9$$

Example 1

Input

```
3
2
3
1
2
3
4
5
6
7
9
```

```
5
28
9
```