Problem A - Euler's Criterion

Leonhard Euler is one of the most famous mathmatician in the history. He left a lot of math results that helped us broaden our horizons. For example, the most beautiful equation after Euler:

$$e^{i\pi} + 1 = 0$$

We are not going deep into this equation today. Instead, we head to another interesting theorem that is also named after Euler, which is related to quadratic residues.

Consider an odd prime number p, for any given $a \neq 0$, we want to know whether there is an integer x such that $a \equiv x^2 (\bmod\ p)$. Euler's criterion gives us an easy way to check this:

$$a^{\frac{p-1}{2}} \equiv \begin{cases} 1 & \text{if } a \text{ is a quadratic residue modulo } p. \\ -1 & \text{otherwise.} \end{cases} \pmod{p}$$

Now, you are given a set of distinct odd prime integers $S = \{p_1, p_2, \cdots, p_n\}$. How many ordered pairs $(a, p) \in S \times S$ with $a \neq p$ satisfying that a is a quadratic residue modulo p?

Input

The first line contains an integer T ($1 \leq T \leq 100$), denoting the number of test cases.

For each test case, the first line contains an integer n ($1 \leq n \leq 100$). Then n integers $p_1, p_2, \cdots, p_n$ follow denoting the set of distinct odd primes ($3 \leq p_i \leq 1000000007$).

Output

For each test case, please output the number of such pairs.

Sample Input

```
2
4
3 5 7 11
5
3 5 7 11 13
```

Sample Output

```
5
7
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