Problem C: Tuned Transmissions

Base Program Constraints: *1s, 256 MB*

Clear Reward: *+1 Point, Casino Floor Access*

Before they enter the Cardinal Casino, Polly and her team need a way to **discreetly communicate** with each other so that they don't arouse suspicion from the guards. Luckily, Olivia has just the thing they need - a set of communication **earpieces** that can allow the team to listen to messages coming from Olivia and each other. However, the set is **mixed up**, so Olivia needs help finding a set of three that work.

Each earpiece has a **frequency** that it transmits on, represented by an integer. Every earpiece Olivia has also comes with a **unique color**, to tell earpieces with the same frequency apart. Two earpieces with frequencies a and b can communicate with each other if an integer n exists such that $a = b * 2^n$. Olivia needs a set of **three** earpieces such that every earpiece can communicate with the other two.

Given all of the earpieces Olivia has, can you count how many distinct sets of three she can form?

Input

Each test contains multiple test cases. The first line of input contains the number of test cases t $(1 \leq t \leq 10)$.

The first line of each test case contains one integer n $(1 \leq n \leq 500)$, the number of earpieces Olivia has.

The next line contains n space-separated integers a_1, a_2, ..., a_n $(1 \leq a_n \leq 1000)$, where a_i is the frequency of the i-th earpiece.

Output

For each test case, output the number of distinct sets of three earpieces Olivia can form. Two sets are distinct if there is at least one earpiece that is in exactly one of the sets. **Note that two different earpieces with the same frequency are still considered distinct.**

Sample Test Cases

Sample 1 - Input

```
4
4
1 1 1 1
5
1 1 1 1 1
6
1 2 4 5 10 20
6
1 2 4 8 16 31
```

Sample 1 - Output

```
5
10
2
10
```

Notes

In the first test case, any earpiece can be used in the set of three since all four can communicate with each other.

In the third test case, the only sets Olivia can form are with $1, 2, 4$ and with $5, 10, 20$.