

## Problem D – Pythagorean triple

Little Long is now in grade 7<sup>th</sup> and he shows great ability and passionate in geometry. After having learned about right triangle and Pythagorean Theorem, he had researched more on the internet about *Pythagorean triple* and its distribution.

The Pythagorean triple is defined as three positive integers  $a, b$ , and  $c$ , such that  $a^2 + b^2 = c^2$

Figure 1 is the distribution of pairs  $(a, b)$  where exists a number  $c$  such that  $(a, b, c)$  is a Pythagorean triple. Looking at it, little Long realized that it is more compressed than he had thought. Thus, he wants to verify with a set of random integers. Given a set  $S$  consists of  $N$  positive integers, your task is to help him count the number of different Pythagorean triples in set  $S$ . Triple  $(x, y, z)$  and triple  $(y, x, z)$  are considered the same.

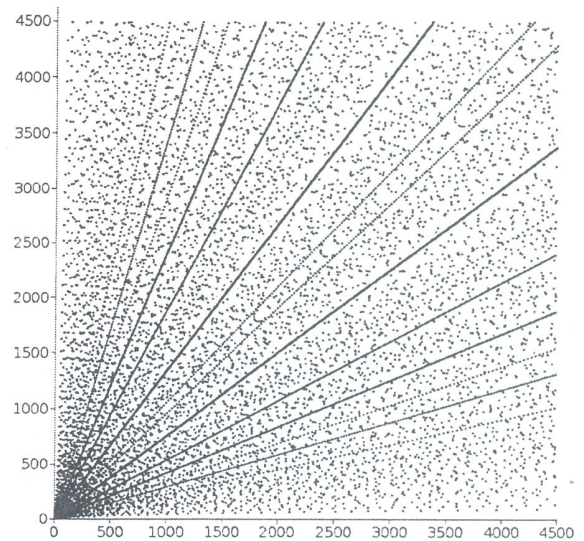


Figure 1

### Input

The input starts with the number  $T$  ( $T \leq 20$ ) – the number of test cases. Then  $T$  test cases follow. Each test cases starts with number  $N$  ( $N \leq 100$ ). Following this are  $N$  numbers of set  $S$ . All the numbers in the set are guaranteed to be unique and do not exceed  $10^4$ .

### Output

For each test case, display a single line containing the case number and the number of Pythagorean triples formatted like the sample data.

### Sample

Sample input	Output for sample input
2	Case #1: 1
6 1 2 3 4 5 6	Case #2: 2
5 13 12 5 4 3	