

123 Sequence

A 123 sequence is defined as a non-decreasing sequence of length ≥ 2 , where each number is 1 or 2 or 3. The difference between all unique pairs of numbers is given i.e. for a 123 sequence a_1, a_2, a_3, \dots and the differences are $a_j - a_i$ for $1 \leq i < j \leq n$.

Since the 123 sequence contains only 1, 2, 3 the difference between any pair can be 0, 1, 2. Given the number of 0s, 1s, 2s in the difference sequence X, Y, Z respectively, your task is to find the number of distinct 123 sequences that could result in X, Y, Z.

Two 123 sequences A and B are considered different if there exists at least one i such that A_i is not equal to B_i .

Input

First line of the input contains the number of test cases T. ($T \leq 10000$). Then follow T lines each containing 3 space separated integer X, Y, Z. ($0 \leq X, Y, Z \leq 10^8$. $X+Y+Z > 0$).

Output

For each test case output the number of distinct 123 sequences in a separate line.

Example

Input:

```
3
0 2 1
1 2 3
1 3 2
```

Output:

```
1
0
2
```

Explanation

For the third test case the 123 sequences are 1, 2, 3, 3 and 1, 1, 2, 3.