You have pearl of 3 types.

- Type 1 pearl can be of color from 1 to X.

- Type 2 pearl can be of color from $X + 1$ to $X + Y$

- Type 3 pearl can be of color from $X + Y + 1$ to $X + Y + Z$.

You have unlimited supply of pearls of each type and each color. You want to build some pearl chain. But you have 2 more additional constraints.

- The total number of Type 1 and Type 3 pearls will be exactly A.

- The total number of Type 2 and Type 3 pearls will be exactly B.

Given A, B, X, Y and Z calculate how many different pearl chains are possible. 2 chains are different if they have different length or there is a position in which they have different colored pearl.

Input

First line of the input contains T ($1 \leq T \leq 100$) the number of test cases. Each test case contains 5 integers A, B, X, Y and Z. All of these 5 integers are between 1 and 10^{17} inclusive.

Output

For each test case output an integer denoting the number of possible pearl chains. Since the result is too huge output the result modulo 1000003.

Sample Input

```
5
1 1 1 1 1
2 3 1 1 1
1 1 1 2 1
10 10 10 10 10
100 100 100 100 100
```

Sample Output

```
3
25
5
77069
329672
```