Problem N. No Zero-Sum Subsegment

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	256 megabytes

You are given integers A, B, C, D. Count the number of arrays of length $A + B + C + D$, such that:

- They contain exactly A elements equal to -2, exactly B elements equal to -1, exactly C elements equal to 1, exactly D elements equal to 2
- They contain no subarray with sum equal to 0.

As this number can be very large, output it modulo 998244353.

An array b is a subarray of an array c if b can be obtained from c by the deletion of several (possibly, zero or all) elements from the beginning and several (possibly, zero or all) elements from the end.

Input

The first line of the input contains a single integer t ($1 \le t \le 10^5$) — the number of test cases. The description of test cases follows.

The only line of each test case contains 4 integers A, B, C, D ($0 \le A, B, C, D \le 10^6$, $A + B + C + D > 0$).

Output

Output a single integer — answer to the problem.

Example

standard input	standard output
5 69 0 0 0 1 1 1 1 0 0 3 3 6 1 0 6 10000 10000 1000000 1000000	1 0 20 2 480402900

Note

In the first test case, there exists only one such array: an array consisting of 69 -2s.

In the second test case, the sum of all its elements is $(-2) + (-1) + 1 + 2 = 0$, so there are no such arrays.