E. Zayin and Camp

Nothingnuo is going to hold an icpc-camp. He has invited two super jbers, Zayin and dafeng, to come up with some sets of problems and asked them to give lectures at the same time. Due to the high price of these problems, Nothingnuo can just buy n problem sets from them. Each problem set is only used for a single contest. The n sets of problems have to be distributed into two divisions and two divisions can't share common sets of problems. That is to say, if divA uses x sets of problems to hold x contests, then divB will use the remaining $(n-x)$ problem sets to hold $(n-x)$ contests.

The students in the camp are divided into divA and divB. At the opening ceremony of the camp, people in two divisions are at the same level of energy at 0.

In each unit of time, each teacher has two choices of activities:

1. Give a lecture, after which students' level of energy will increase by 1.
2. Use a problem set that was distributed at first to organize a contest, after which students' level of energy will decrease by m.

Once the camp starts (at least one unit time after the opening), the level of students energy should keep larger than 0 constantly, or they will be too exhausted and will not take courses or testing anymore.

Zayin takes charge of divA and dafeng takes charge of divB, and they have so much technology to share that both of them want to extend their teaching time, but students in camp don't want to be so tired, for they are planning for tour after camp. So nothingnuo orders that the students' energy in divA after camp is exactly r, while divB's is exactly s.

Zayin wonders how many different schedules of the camp are there. We define the schedule of a particular division as the sequence of activities chronologically. And we define the schedule of a camp as the ordered pair of sequences of activities in two divisions. For two camping schedules, we regard them as identical if and only if divA has the same activity sequence in two schedules and divB does same as well (Two activities are same if they are both lecture or both contest. That is to say, we ignore the difference between the problem sets). For example:

Schedule 1: Div.A (Lecture, Lecture, Lecture, Testing), Div.B (Lecture, Testing, Lecture, Lecture).

Schedule 2: Div.A (Lecture, Lecture, Testing, Lecture), Div.B (Lecture, Testing, Lecture, Lecture).

These two schedules are different. But if we change the sequence in schedule 2 Div.A to (Lecture, Lecture, Lecture, Testing), then it will be the same as the first.

Input

The first line of input contains an integer $T(1 \le T \le 10^4)$, denoting the number of test cases.

Each test case contains one line with four integers n, m, r, s, where n is the number of problem sets, m is the physical strength cost of each problem set, r is the rest strength of divA, and s is the rest strength of divB after camp. ($1 \le n, m \le 10^7$, $n \times m \le 10^7$, $1 \le r, s \le 5 \times 10^6$)

Output

For each case, print an integer in a line, denoting the number of different camp schedules. Because the result may be too large, you just need to output the answer module 998244353.

Sample

Input	Output
2 3 2 1 2 4 1 1 1	55 42

Explanation

For the first case:

When div.A is distributed 0, 1, 2, 3 sets of prob, the number of schedules are 1, 1, 3, 12 respectively.

When div.B is distributed 3, 2, 1, 0 sets of prob, the number of schedules are 30, 7, 2, 1 respectively.

So the number of different schedules is $1 \times 30 + 1 \times 7 + 3 \times 2 + 12 \times 1 = 55$.