

Problem B. Black and White

Input file: *standard input*
Output file: *standard output*
Time limit: 1 second
Memory limit: 256 mebibytes

Master Pang walks from the bottom-left corner of a $n \times m$ chessboard to the top-right corner. The chessboard contains $n + 1$ horizontal line segments and $m + 1$ vertical line segments. The horizontal line segments are numbered from 0 to n from bottom to top and the vertical ones are numbered from 0 to m from left to right. The intersection of horizontal line segment r and vertical segment c is denoted by (r, c) . The bottom-left corner is $(0, 0)$ and the top-right corner is (n, m) . At each step, he can only walk from (x, y) to $(x, y + 1)$ or from (x, y) to $(x + 1, y)$.

Each of the $n \times m$ cells is colored white or black. A cell with corners $(i, j), (i + 1, j), (i, j + 1), (i + 1, j + 1)$ ($0 \leq i < n, 0 \leq j < m$) is colored white if and only if $i \equiv j \pmod{2}$.

Given *Pang's* walking path from $(0, 0)$ to (n, m) , his score is $a - b$ where a is the number of white cells to the left of his walking path and b is the number of black cells to the left of his walking path.

Help *Master Pang* count the number of walking paths with score k modulo 998244353.

Input

The first line contains a single integer T — the number of test cases ($1 \leq T \leq 100$).

Each of the next T lines contains three integers n, m and k ($1 \leq n \leq 100000, 1 \leq m \leq 100000, -100000 \leq k \leq 100000$).

Output

For each test case, output a single integer — the answer modulo 998244353.

Example

standard input	standard output
5	1
1 1 0	0
1 1 -1	1
2 2 1	4
2 2 0	16
4 4 1	