Problem B. Black and White

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

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 $(i, j), (i+1, j), (i, j+1), (i+1, j+1)$ $(0 \le i < n, 0 \le j < m)$ 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 $(1 \le T \le 100)$.

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

Output

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

Example

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