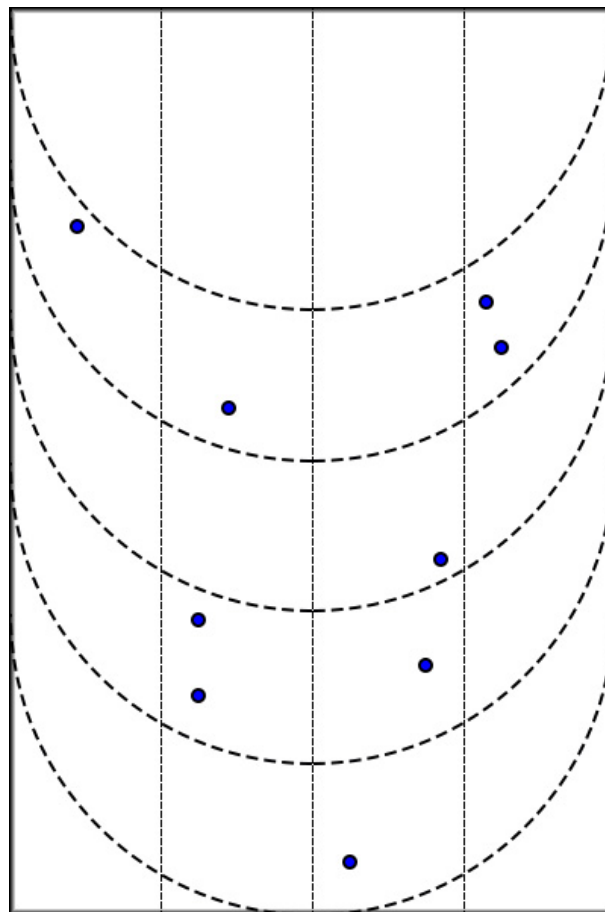

Problem A. The Wall

Input file: `wall.in`
Output file: `standard output`
Time limit: 2 seconds
Memory limit: 64 megabytes

The Wall is a colossal defence along the northern border of the seven kingdoms, defending the realm from the wildlings who live beyond. It is defended and held by the Sworn Brothers of the Night's Watch, and since the white walkers did not return for the past eight thousand years, the Night's Watch has mostly shifted its focus to preventing the wildlings from crossing south of the Wall. They divided it into security squarcs (a squarc is half arc half a square shape), namely into N by M squarcs, and employed two types of defences:

- N Barrels filled with burning oil or ice and stone to drop on attackers along the Y axis.
- M Pendulums suspended from a pivot in the horizontal centre of the wall on multiple heights, the first on zero the second on one and so on, in a way that they can swing along the X axis with a radius equals half of N in an arc-like way with tremendous force, brutally mauling anyone within its swinging one unit height arc.

These two types of defences are fixed and assigned to each squarc in order to defend it.



You are given a set of points representing the coordinates of the wildlings who are climbing the wall, no point lays outside or on the borders of any squarc, what is the minimum number of defences that you have to use in order to stop the wildlings and defend the seven kingdoms.

Input

The first line contains one integer T , the number of test cases. Each test case starts with a single line containing three integers: $(1 \leq N \leq 100)$, $(1 \leq M \leq 100)$, the number of squarcs along the x and the y axes and $(1 \leq P \leq 10,000)$, The next P lines each of which consists of two real numbers $(0 < x < N)$, $(0 < y < M + N/2)$ describing the coordinates of the wildling.

Output

For each test case, print on a single line, a single number representing the minimum number of defences that you have to use in order to stop the wildlings.

Example

wall.in	standard output
1 4 4 9 3.1 1.9 0.4 1.4 1.4 2.6 3.2 2.2 2.2 5.6 2.7 4.3 1.2 4.0 1.2 4.5 2.8 3.6	3