Flow Online – Section B
Owls and Mice: The Great Meadow Escape
Time – 30 Minutes

Problem Statement

The owls are out hunting again.

In the moonlit fields of Birmingham, the mice scatter — each hoping to find shelter before the predators close in. Dotted across the meadow are several holes — their only chance for survival.

But there's a problem:

- Each mouse can only run a certain maximum distance r in any direction.
- Each hole can only hide a limited number of mice — its **capacity**.
- The terrain is vast. Not every mouse can reach every hole in time.

Your mission?

Figure out the **maximum number of mice that can escape**, by assigning them to reachable and available holes.

This is a matter of life and death. **Choose wisely.**

Input Format

- First line: An integer T ($1 \leq T \leq 100$), the number of test cases.
- For each test case:
  - First line: Three values M H R
    - M = number of mice ($1 \leq M \leq 100$)
    - H = number of holes ($1 \leq H \leq 100$)
    - R = maximum distance any mouse can run ($0 \leq R \leq 10000$; floating-point)
  - Next M lines: each line contains two floats x y — the 2D coordinates of a mouse.
  - Next H lines: each line contains three values x y c — the coordinates and capacity of a hole.

Output Format

For each test case, print the case number and the maximum number of mice that can escape in the following format:

`Case X: Y`

Where X is the test case number (starting from 1) and Y is the number of mice that can be safely assigned to holes.

Sample Input

```
5
3 2 5.0
0 0
2 2
4 4
0 0 2
5 5 2
4 2 3.0
1 1
2 2
3 3
4 4
2 2 2
3 3 1
2 2 1.0
0 0
10 10
3 3 1
12 12 1
3 3 2.5
0 0
2 0
4 0
1 0 1
3 0 1
5 0 1
5 2 5.0
1 1
1 2
1 3
1 4
1 5
0 0 2
2 2 2
```

Sample Output

```
Case 1: 3
Case 2: 3
Case 3: 0
Case 4: 3
Case 5: 4
```