Ant's Journey

Filename: `journey`

An ant lives on the cartesian plane. It has decided to go on a journey from the point (0, 0) to the point (n, m) by only making moves to the right or up. A move to the right increments the ant's x coordinate, while a move up increments the ant's y coordinate. However, there may be anteaters at several points along the way, which the ant must avoid. Determine how many different ways can the ant make its journey.

The Problem:

Given the location of anteaters, as well as the end point of the journey, count the number of ways in which the ant reach the end. As this number can be very large, print it modulo 10^9+7.

The Input:

The first line of the input file begins with a single, positive integer, t, representing the number of journeys. For each journey, several lines follow. The first contains two integers, $1 \leq n, m \leq 2000$, representing the journey's end point. The second line a single integer, $0 \leq k \leq 10000$ representing the number of anteaters. k lines follow, each with two integers, $0 \leq x, y \leq 2000$, representing the location of each anteater. No two anteaters share the same location.

The Output:

For each test case, output a single line saying "`Journey #i: c`" without the quotes, where `i` is the number of the journey, and `c` is the number of ways the ant can reach the endpoint modulo 10^9+7.

Sample Input:

```
3
3 4
3
0 2
2 4
1 3
1 1
0
10 10
2
9 5
5 9
```

Sample Output:

```
Journey #1: 14
Journey #2: 2
Journey #3: 160732
```