Attack of Panda

The problem description can be found at [ZOJ 2849](http://acm.zju.edu.cn/onlinejudge/showProblem.do?problemCode=2849)

**Input Specification:**

Your program must read test cases from the standard input. The input will contain one or more test cases. Each test case begins with two integers M and N (1 <= M, N <= 500), followed by an M by N matrix which represents the initial status of the network. Then there is an integer Q indicating the number of queries. Each of the following Q lines gives a virus variation type.

The input ends with M and N both being 0. That case must NOT be processed.

**Output Specification:**

For each test case, output to the standard output. First print a line saying "Scenario #k", where k is the number of the test case (starting from 1). Then, for each virus variation, print the number of computers that were infected by it on a single line. Print a blank line between two test cases, but no extra line at the end of output.

**Sample Input:**

3 4

1 -3 -2 -3

-2 -1 -2 2

-3 -2 -1 -1

2

1

2

1 3

1 -1 2

2

1

2

0 0

**Sample Output:**

Scenario #1

9

3

Scenario #2

2

1