
IV BXComp

4th Freshmen's Programming Championship of Information Systems 2014

5th Stage – Challenge 1

The Restaurant at the End of the Universe

As it is known by everyone, Milliways, the Restaurant at the End of The Universe, is a very important place. A lot of interplanetary diplomatic meetings happen at Milliways. Tonight, the emperors and the counselors of many planets will gather to discuss the misuse of natural resources on Earth, and decide which of them will take over the Earth government to fix things up. Moreover, in such a meeting, all the attendants will seat at the same table, in a row, and the waiter will serve the food in rounds. During each round, the waiter will cover only one section of the table.

This plan seems pretty much reasonable, but you know, those emperors are pretty jealous, and also, the restaurant chef is worried about protests that may be started by them if the waiter, in a round of service, serves more than K people from the same planet.

Since this condition is certain to occur, the chef wants your help to estimate the damage that will be caused to the restaurant. It is required that you estimate the number of planets that will have more than K people served on each round.

Input

The first line in the input file contains an integer that represents the number of tests that will be presented. In the first line of each test, there are two integers N and K , where N is the number of persons, and K is the limit of people from the same planet that can be served in each round. The second line of each test contains N integers that indicate the planet of the person, and the disposal of the people at the table. The next line contains another integer R that represents the number of rounds that the waiter will make. Each of the following R lines contains two integers, which represent the path that the waiter will walk during that round: the former integer is the starting chair and the latter is the ending chair. After each test, there's a blank line.

Output

For each of the **R** rounds, print the number of planets that exceeded the limit **K** of served people. After each test, print a blank line.

Input Example

```
2
8 2
3 1 2 2 1 1 2 1
3
1 6
3 5
2 8

3 1
1 2 1
3
1 2
2 1
1 3
```

Output Example

```
1
0
2

0
0
1
```