**Problem 3. Security**

Ivancho’s father is an owner of a company. The whole company is divided into sectors. Each worker in the company is part of one or more sectors. As the workers in each sector are pretty good friends they share a lot of information with one another.

Due to importance of the information, Ivancho’s father wants to limit the distribution of the it. Therefore he needs a software which answers him the following question “Could an information get from person X to person Y?” Now Ivancho should write the code. Ass you might guess he can’t do this and you need to help him as very good friend of him.

**Input**: On the first line of the input file **security.in** will be written two numbers M and N – the number of the sectors and the number of workers in the company. Follow M lines describing the sectors. Each line starts with K – the number of workers in the current sector followed by K numbers – the numbers of the workers who work in the current sector in the interval [1;N]. Follow an integer Q – the number of questions. Next Q lines contain two numbers – X and Y describing each question.

**Output**: In the output file **security.out** you must print the answer for each question of the input. „1” (without the quotes) if given information could reach person with number Y from person with number X and „0” (without the quotes) otherwise.

**Constraints:**

1 М100

1 N 1000

1 X,Y M

1 Q1000000

**TIME LIMIT – 2 sec**

**Note**: You can scan from a file and print into a file by using an operator for that. You can use operator freopen including fstream library and adding the following two lines in the beginning of your main function:

freopen ( "security.in", "r", stdin );

freopen ( “security.out”, “w” , stdout );

**Example:**

|  |  |
| --- | --- |
| **security.in** | **security.out** |
| 4 10  2 3 4  1 2  2 5 6  5 3 4 5 8 9  6  5 9  1 7  9 8  6 5  5 6  7 5 | 1  0  1  1  1  0 |