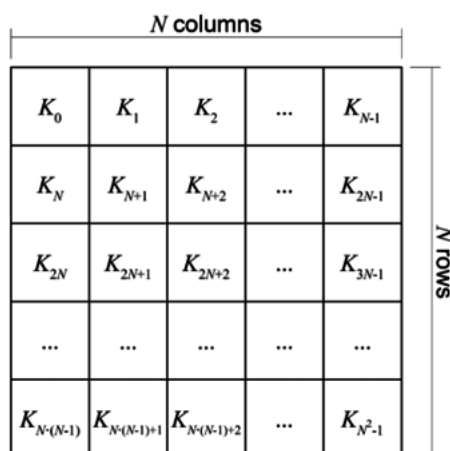# King Richard's Knights ★

Problem   Submissions   Leaderboard   Editorial 🔒

King Richard is leading a troop of   knights into battle! Being very organized, he labels his knights   and arranges them in an   square formation, demonstrated below:

Before the battle begins, he wants to test how well his knights follow instructions. He issues   drill commands, where each command follows the format a_i b_i d_i and is executed like so:

- All knights in the square having the top-left corner at location   and the bottom-right corner at location   rotate   in the clockwise direction. Recall that some location   denotes the cell located at the intersection of row   and column . For example:

$(a_i, b_i, d_i) = (2, 3, 3)$
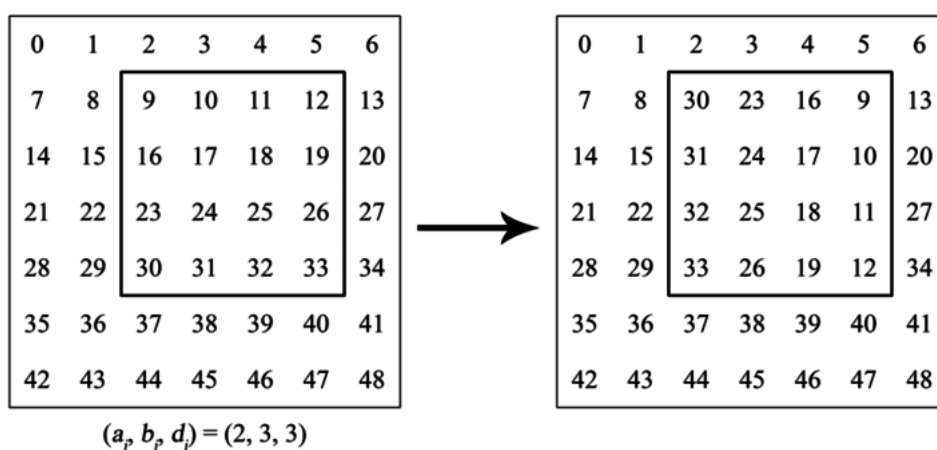
You must follow the commands sequentially. The square for each command is completely contained within the square for the previous command. Assume all knights follow the commands perfectly.

After performing all   drill commands, it's time for battle! King Richard chooses knights   for his first wave of attack; however, because the knights were reordered by the drill commands, he's not sure where his chosen knights are!

As his second-in-command, you must find the locations of the knights. For each knight   ,   , print the knight's row and column locations as two space-separated values on a new line.

Input Format

This is broken down into three parts:

1. The first line contains a single integer,   .

2. The second line contains a single integer,   .

   - Each line   of the   subsequent lines describes a command in the form of three space-separated integers corresponding to   ,   , and   , respectively.

3. The next line contains a single integer,   .

   - Each line   of the   subsequent lines describes a knight the King wants to find in the form of a single integer corresponding to   .

Constraints

-
-
-
-
-        and
-        and
-
-

Subtask

-          for   of the maximum score.

Output Format

Print   lines of output, where each line   contains two space-separated integers describing the respective row and column values where knight   is located.
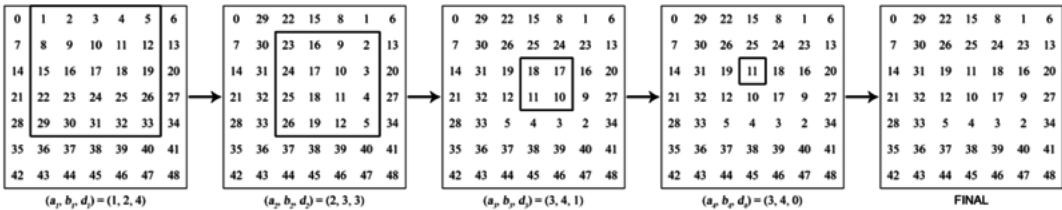
Sample Input

```
7
4
1 2 4
2 3 3
3 4 1
3 4 0
7
0
6
9
11
24
25
48
```

Sample Output

```
1 1
1 7
4 6
3 4
2 5
2 4
7 7
```

Explanation

The following diagram demonstrates the sequence of commands:

$(a_i, b_i, d_i) = (1, 2, 4)$ $(a_i, b_i, d_i) = (2, 3, 3)$ $(a_i, b_i, d_i) = (3, 4, 1)$ $(a_i, b_i, d_i) = (3, 4, 0)$ FINAL

Click here to download a larger image.

In the final configuration:

- Knight   is at location

- Knight   is at location

- Knight   is at location

- Knight   is at location

- Knight   is at location

- Knight   is at location

- Knight   is at location

Change Theme   Language   C++11

```cpp
1    #include <bits/stdc++.h>
2
3    using namespace std;
4
5    string ltrim(const string &);
6    string rtrim(const string &);
7    vector<string> split(const string &);
8
9    /*
10    * Complete the 'kingRichardKnights' function below.
11    *
12    * The function is expected to return a 2D_INTEGER_ARRAY.
13    * The function accepts following parameters:
14    *  1. INTEGER n
15    *  2. INTEGER s
16    *  3. INTEGER_ARRAY knights
17    */
18
19    vector<vector<int>> kingRichardKnights(int n, vector<vector<int>> commands, vector<int> knights)
20
21    }
22
23    int main()
24    {
25        ofstream fout(getenv("OUTPUT_PATH"));
26
```

Line: 131 Col: 1

⬆ Upload Code as File   ☐ Test against custom input

Run Code   **Submit Code**

Blog | Scoring | Environment | FAQ | About Us | Support | Careers | Terms Of Service | Privacy Policy