Be a Problem Setter Contest HCI

|  |  |  |
| --- | --- | --- |
| coins | Time limit: 0.5s | Memory limit: 512MB |

**Problem Statement:**

Yi Kai has recently got obsessed with flipping coins. He will start with a row of n coins, labelled as 0 to n-1, all with heads facing up. Then, he will perform Q operations. In each operation, he will flip the aith to the bith coin inclusive. If a coin’s head side was facing up, the tails side will be facing up after the flip, and vice versa. However, Yi Kai is very lazy to manually flip the coins himself. Therefore, he wants you to help him predict the resulting permutation of the coins after his Q operations.

**Input:**

The first line of input contains 2 integers, n, the number of coins, and q, the number of operations.

The next q lines will contain 2 integers, ai and bi.

**Output:**

Output the resulting permutation of the coins, 0 representing heads, 1 representing tails.(e.g. 1000111)

**Sample I/O:**

|  |  |
| --- | --- |
| Input | Output |
| 5 3  0 2  2 4  1 3 | 10101 |
| 2 2  0 0  0 1 | 01 |

**Subtasks and limits:**

For all subtasks:

n, q<=30,000,000

0<=ai<bi<n

Subtask 1 (80%) :n,q<=1000

Subtask 2 (15%) :n,q<=1,000,000

Subtask 3 (5%) :No further constraints apply