Intervals

Time limit: 2.5s **Memory limit:** 16M

A *closed interval* $[a \ldots b]$ contains the integers $a, a+1, \ldots, b$. You are given N closed intervals $[a_i \ldots b_i]$ $(0 \leq N \leq 100\,000)$, with a_i and b_i in the range $[-10^9 \ldots 10^9]$, and Q $(0 \leq Q \leq 100\,000)$ queries of the form "*how many intervals contain this integer x?*" (where $-2 \times 10^9 \leq x \leq 2 \times 10^9$). Determine the answer to each query.

Input Specification

Line 1: Two space-separated integers, N and Q.
Next N lines: Two space-separated integers each, a_i and b_i, denoting one closed interval.
Next Q lines: One integer each, denoting a single query.

Output Specification

Print the answer to each query on its own line.

Sample Input

```
3 10
0 3
2 4
3 7
-1
0
1
2
3
4
5
6
7
8
```

Sample Output

```
0
1
1
2
3
2
1
1
1
0
```

Note: In test cases worth 25% of the points, a_i and b_i will be in the range $[-1\,000 \ldots 1\,000]$.