

## 1089 – Points in Segments (II)

Given  $n$  segments (1 dimensional) and  $q$  points, for each point you have to find the number of segments which contain that point. A point  $p_i$  will lie in a segment  $A B$  if  $A \leq p_i \leq B$ .

For example, if the segments are  $(6\ 12)$ ,  $(8\ 8)$ ,  $(10\ 12)$ ,  $(8\ 11)$ ,  $(0\ 12)$  and the point is  $11$ , then it is contained by  $4$  segments.

### Input

Input starts with an integer  $T$  ( $\leq 5$ ), denoting the number of test cases.

Each case starts with a line containing two integers  $n$  ( $1 \leq n \leq 50000$ ) and  $q$  ( $1 \leq q \leq 50000$ ).

Each of the next  $n$  lines contains two integers  $A_k\ B_k$  ( $0 \leq A_k \leq B_k \leq 10^8$ ) denoting a segment.

Each of the next  $q$  lines contains an integer denoting a point. Each of them range in  $[0, 10^8]$ .

### Output

For each case, print the case number in a single line. Then for each point, print the number of segments that contain that point.

Sample Input	Output for Sample Input
1 5 4 6 12 8 8 10 12 8 11 0 12 11 12 2 20	Case 1: 4 3 1 0

### Notes

Dataset is huge, use faster I/O methods.