

## Problem H. Points in Segments

**Time limit** 2000 ms

**Mem limit** 65536 kB

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

For example if the points are 1, 4, 6, 8, 10. And the segment is 0 to 5. Then there are 2 points that lie in the segment.

### Input

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

Each case starts with a line containing two integers  $n$  ( $1 \leq n \leq 10^5$ ) and  $q$  ( $1 \leq q \leq 50000$ ). The next line contains  $n$  space separated integers denoting the points in ascending order. All the integers are distinct and each of them range in  $[0, 10^8]$ .

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

### Output

For each case, print the case number in a single line. Then for each segment, print the number of points that lie in that segment.

### Sample

Input	Output
1 5 3 1 4 6 8 10 0 5 6 10 7 100000	Case 1: 2 3 2

### Note

Dataset is huge, use faster I/O methods.