1088 – Points in Segments

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 $\mathbf{p_i}$ will lie in a segment **A B** if $\mathbf{A \leq p_i \leq B}$.

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 (≤ 5)**, denoting the number of test cases.

Each case starts with a line containing two integers $\mathbf{n\ (1 \leq n \leq 10^5)}$ and **q (1 ≤ q ≤ 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 $\mathbf{[0, 10^8]}$.

Each of the next **q** lines contains two integers $\mathbf{A_k\ B_k\ (0 \leq A_k \leq B_k \leq 10^8)}$ 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 for Sample Input
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.