

Counting diff-pairs

You are given sequence A of N integers. You are also given integer K and M queries. Each query consists of two integers l, r . For each query output number of pairs i, j such that $l \leq i < j \leq r$ and $\text{abs}(A[i] - A[j]) \geq K$.

Indexing starts with 1.

$N \leq 50000$

$M \leq 50000$

$1 \leq A[i] \leq 100000$

NOTE: All tests are randomly generated.

Input

First line of input contains integers N, M, K in this order.

Second line contains N integers representing array A .

Next M lines describe queries.

Output

Output answer for each query.

Example

Input:

3 1 2

1 2 3

1 3

Output:

1