

Problem G - Apple Sums

It's harvest time! Daniel has hired the ACM team to help him harvest apples. Each person picks up one out of n large baskets (labeled from 1 to n), goes into Daniel's apple orchard and picks up some number of apples before dropping the basket off at Daniel's house. From there, Daniel loads up his truck with some number of apples, and drops them off at a warehouse.

Daniel has loaded his truck with baskets i for all $i \in [\ell, r]$, so his truck contains baskets $\ell, \ell + 1, \dots, r - 1, r$. On his way to the warehouse, Daniel drops by David's house to gift his good friend some of the fruits of his labor. Daniel wants to give David two baskets of apples, but David refuses to take them unless Daniel gives him exactly k apples. Daniel doesn't want to move apples from one basket to another (because that's too much work). Help Daniel determine how many different pairs of baskets he can give to David.

Input

The first line contains a single integer, T specifying the number of test cases.

Each test case begins with one integer n ($1 \leq n \leq 2 \times 10^5$) denoting the total number number of baskets of apples Daniel has and k ($1 \leq k \leq 10^6$) the number of apples that David wants. Then follows one line with n space seperated integers, with the i th integer a_i ($1 \leq a_i \leq 10^6$) denoting the number of apples in the i th basket.

The next line contains q ($1 \leq q \leq 2 \times 10^5$) the number of queries. Each query is considered an independent question. Then follows q lines with one query on each line of the form ℓr ($1 \leq \ell \leq r \leq n$).

Output

For each test case, output the answers to the queries each on its own line.

Output the number of different pairs of baskets he can give to David from baskets from $\ell, \ell + 1, \dots, r - 1, r$ such that the total number of apples that he gives David is exactly k . Giving David basket x and basket y is considered the same as giving him basket y and x .

Sample Input

```
1
5 5
1 4 10 4 10
4
1 5
2 4
1 3
3 5
```

Sample Output

```
2
0
1
0
```
