

## 8522 LOVER II

One day  $n$  girls and  $m$  boys come to Xi'an to look for a mate. Each girl has a value  $a[i]$ , each boy has a value  $b[i]$ . Girl  $i$  and boy  $j$  will fall in love only if  $a[i] + b[j] \geq k$ .

Then  $q$  queries follow. Ask you to calculate if we only have boys labeled from  $L$  to  $R$ , can we make all girls find their lovers?

### Input

Several test cases. (No more than 10)

First line an integer  $T$  ( $1 \leq T \leq 10$ ). Indicates the number of test cases.

Then  $T$  test cases follows. Each test case begins with three integer  $n, m, k$  ( $1 \leq n, m \leq 200000$ ,  $0 \leq k \leq 10^9$ ). The next line has  $N$  integers indicate  $a[1]$  to  $a[n]$  ( $0 \leq a[i] \leq 10^9$ ). The next line has  $N$  integers indicate  $b[1]$  to  $b[n]$  ( $0 \leq b[i] \leq 10^9$ ).

Then comes an integer  $q$ . ( $1 \leq q \leq 100000$ ).

The next  $q$  lines each line two integer  $L, R$  ( $1 \leq L \leq R \leq m$ ) indicate each query.

### Output

For each query, print '1' if we can make it or '0' otherwise.

### Sample Input

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

### Sample Output

```
1
0
```