

SPOJ Problem Set (classical)

1043. Can you answer these queries I

Problem code: GSS1

You are given a sequence $A[1], A[2], \dots, A[N]$. ($|A[i]| \leq 15007$, $1 \leq N \leq 50000$). A query is defined as follows:

Query(x,y) = Max { $a[i]+a[i+1]+\dots+a[j]$; $x \leq i \leq j \leq y$ }.

Given M queries, your program must output the results of these queries.

Input

- The first line of the input file contains the integer N.
 - In the second line, N numbers follow.
 - The third line contains the integer M.
- M lines follow, where line i contains 2 numbers x_i and y_i .

Output

Your program should output the results of the M queries, one query per line.

Example

Input :

```
3
-1 2 3
1
1 2
```

Output :

```
2
```

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Time limit: 1s-2s

Source limit:5000B

Languages: All