Service Lane ☆

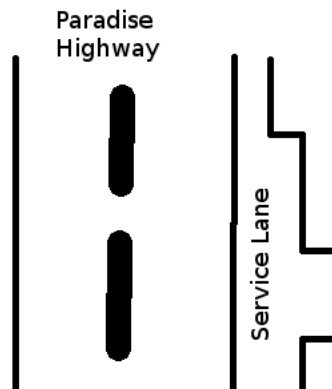| Problem	Submissions	Leaderboard	Editorial	Topics

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Calvin is driving his favorite vehicle on the 101 freeway. He notices that the check engine light of his vehicle is immediately to avoid any risks. Luckily, a service lane runs parallel to the highway. The service lane varies in v

Paradise
Highway

Service Lane

You will be given an array of widths at points along the road (*indices*), then a list of the indices of entry and ex point pair, calculate the maximum size vehicle that can travel that segment of the service lane safely.

For example, there are $n = 4$ measurements yielding $width = [2, 3, 2, 1]$. If our entry index, $i = 1$ and our of 2 and 3 respectively. The widest vehicle that can fit through both is 2. If $i = 2$ and $j = 4$, our widths are $[$

Function Description

Complete the *serviceLane* function in the editor below. It should return an array of integers representing the through each segment of the highway described.

serviceLane has the following parameter(s):

- *n*: an integer denoting the size of the *cases* array

- *cases*: a two dimensional array of integers where each element is an array of two integers representing sta consider .

Input Format

The first line of input contains two integers, n and t, where n denotes the number of width measurements yo cases. The next line has n space-separated integers which represent the array $width[w_0, w_1 \ldots, w_{n-1}]$.

The next t lines contain two integers, i and j, where i is the start index and j is the end index of the segment

Constraints

- $2 \le n \le 100000$
- $1 \le t \le 1000$
- $0 \le i < j < n$
- $2 \le j - i + 1 \le min(n, 1000)$
- $1 \le width[k] \le 3$, where $0 \le k < n$

Output Format

For each test case, print the number that represents the largest vehicle type that can pass through the entire indexes i and j inclusive.

Sample Input

```
8 5
2 3 1 2 3 2 3 3
0 3
4 6
6 7
3 5
0 7
```

Sample Output

```
1
2
3
2
1
```

Explanation

Below is the representation of the lane:

```
    |HIGHWAY|Lane|    ->    Width

 0: |       |--|          2
```

```
1: |        |---|      3
2: |        |-|        1
3: |        |--|       2
4: |        |---|      3
5: |        |--|       2
6: |        |---|      3
7: |        |---|      3
```

1. $(0, 3)$: From index 0 through 3 we have widths $2, 3, 1$ and 2. Nothing wider than 1 can pass all segments.

2. $(4, 6)$: From index 4 through 6 we have widht $3, 2$ and 3. Nothing wider than 2 can pass all segments.

3. $(6, 7)$: $3, 3 \rightarrow 3$.

4. $(3, 5)$: $2, 3, 2 \rightarrow 2$

5. $(0, 7)$: $2, 3, 1, 2, 3, 2, 3, 3 \rightarrow 1$.