Window Shaping

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Points: 100 (partial)
Time limit: 1.0s
Memory limit: 256M

Allowed languages
C

You are given an array of **N** integers, you need to find the maximum of minimum for every window size. The size of the window should vary from **1** to **N** only.

Input Format

- The first line contains an integer **T** denoting the number of testcases.
- The second line contains integer **N** (the size of the array).
- The third line contains **N** space-separated positive integers representing the array **A**: `A[1], A[2], …, A[N]`.

Output Format

- Print **N** integers, each integer `A[i]` representing the maximum of all minimums of window size `i`.
- **Note** `i` starts from **1**

Constraints:

- `1 <= T <= 100`
- `1 <= N <= 10^4`
- `-10 ^ 9 <= A[i] <= 10 ^ 9`

Examples:

Input:

Copy

```
4
1 2 3 4
```

Output:

```
4 3 2 1
```

Copy

Explanation:

`A = [1,2,3,4]`

Minimums of window size 1 are `min(1), min(2), min(3), min(4) = (1,2,3,4)`. Maximum among `(1,2,3,4)` is **4**.

Minimums of window size 2 are `min(1,2), min(2,3), min(3,4) = (1,2,3)` Maximum among `(1,2,3)` is **3**.

Minimums of window size 3 are `min(1,2,3), min(2,3,4) = (1,2)` Maximum among `(1,2)` is **2**.

Minimums of window size 4 are `min(1,2,3,4) = 1` Maximum among them is **1**.

The output array should be `[4,3,2,1]`.

input:

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

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Output:

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

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Explanation:

Minimums of window size 1 are `min(3), min(3), min(4), min(2), min(4) = 3, 3, 4, 2, 4` Maximum among `(3, 3, 4, 2, 4)` is **4**.

Minimums of window size 2 are `min(3,3), min(3,4), min(4,2), min(2,4) = 3, 3, 2, 2` Maximum

Minimums of window size 3 are `min(3,3,4), min(3,4,2), min(4,2,4) = 3, 2, 2` Maximum among `(3, 2, 2)` is **3**.

Minimums of window size 4 are `min(3,3,4,2), min(3,4,2,4) = 2, 2` Maximum among `(2, 2)` is **2**.

Minimums of window size 5 are `min(3,3,4,2,4) = 2` Maximum among them is **2**.

The output array should be `[4,3,3,2,2]`.

Clarifications

Request clarification

No clarifications have been made at this time.