

IncDec

ZPRAC-16-17-Lab12

INCDEC [40 Points]

ANNOUNCEMENT:

Up to 20% marks will be allotted for good programming practice. These include

- Comments for non-trivial code
 - Indentation: align your code properly
 - Use dynamic memory allocation whenever array (any dimensional) is needed.
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a is an array of size n which is first increasing and then decreasing. That is, there exists a k such that $a[i-1] < a[i]$ for $i \leq k$ and $a[j] > a[j+1]$ for all $j \geq k$.

Given such an array, you have to search for q numbers inside this array.

Input:

The first line contains an integer n

the second line contains n integers denoting the array.

The third line has an integer q

The following q lines contain an integer each which needs to be searched for in the array.

Output:

q lines, each line containing either "Yes" or "No" depending on whether

the corresponding number is present in the array.

Example:

Input:

6

1 2 5 7 4 2

3

4

3

2

Output:

Yes

No

Yes

Hint/Caution: You need to use binary search for searching inside the array, and also for finding the pivot k. Using any iterative method to search for the number or for the pivot k (even during input) will lead to 0 marks.