

Next Smallest Palindrome

Given a number, in the form of an array **Num[]** of size **N** containing digits from **1** to **9**(inclusive). The task is to find the **next smallest palindrome strictly larger than the given number**.

Example 1:

Input:

N = 11

Num[] = {9, 4, 1, 8, 7, 9, 7, 8, 3, 2, 2}

Output: 9 4 1 8 8 0 8 8 1 4 9

Explanation: Next smallest palindrome is

9 4 1 8 8 0 8 8 1 4 9

Example 2:

Input:

N = 5

Num[] = {2, 3, 5, 4, 5}

Output: 2 3 6 3 2

Explanation: Next smallest palindrome is

2 3 6 3 2

Your Task:

Complete the function **generateNextPalindrome()** which takes an array **num**, and a single integer **n**, as input parameters and returns an array of integers denoting the answer. You don't to print answer or take inputs.

Expected Time Complexity: $O(N)$

Expected Auxiliary Space: $O(1)$

Constraints:

$1 \leq N \leq 10^5$

$1 \leq \text{Num}[i] \leq 9$