

Longest Bounded-Difference Subarray

Given an array of positive integers **arr[]** and a non-negative integer **x**, the task is to find the **longest sub-array** where the absolute difference between any two elements is not greater than **x**.

If multiple such subarrays exist, return the one that starts at the **smallest index**.

Examples:

Input: arr[] = [8, 4, 5, 6, 7], x = 3

Output: [4, 5, 6, 7]

Explanation: The sub-array described by index [1..4], i.e. [4, 5, 6, 7] contains no two elements whose absolute difference is greater than 3.

Input: arr[] = [1, 10, 12, 13, 14], x = 2

Output: [12, 13, 14]

Explanation: The sub-array described by index [2..4], i.e. [12, 13, 14] contains no two elements whose absolute difference is greater than 2.

Constraints:

$1 \leq \text{arr.size()} \leq 10^5$

$1 \leq \text{arr}[i] \leq 10^9$

$0 \leq x \leq 10^9$