

56) . Longest Continuous Subarray With Absolute Diff Less Than or Equal to Limit

Given an array of integers nums and an integer limit, return the size of the longest non-empty subarray such that the absolute difference between any two elements of this subarray is less than or equal to limit.

CODE:

```
from collections import deque
import heapq

def longest_subarray(nums, limit):
    max_heap, min_heap = [], []
    left = 0

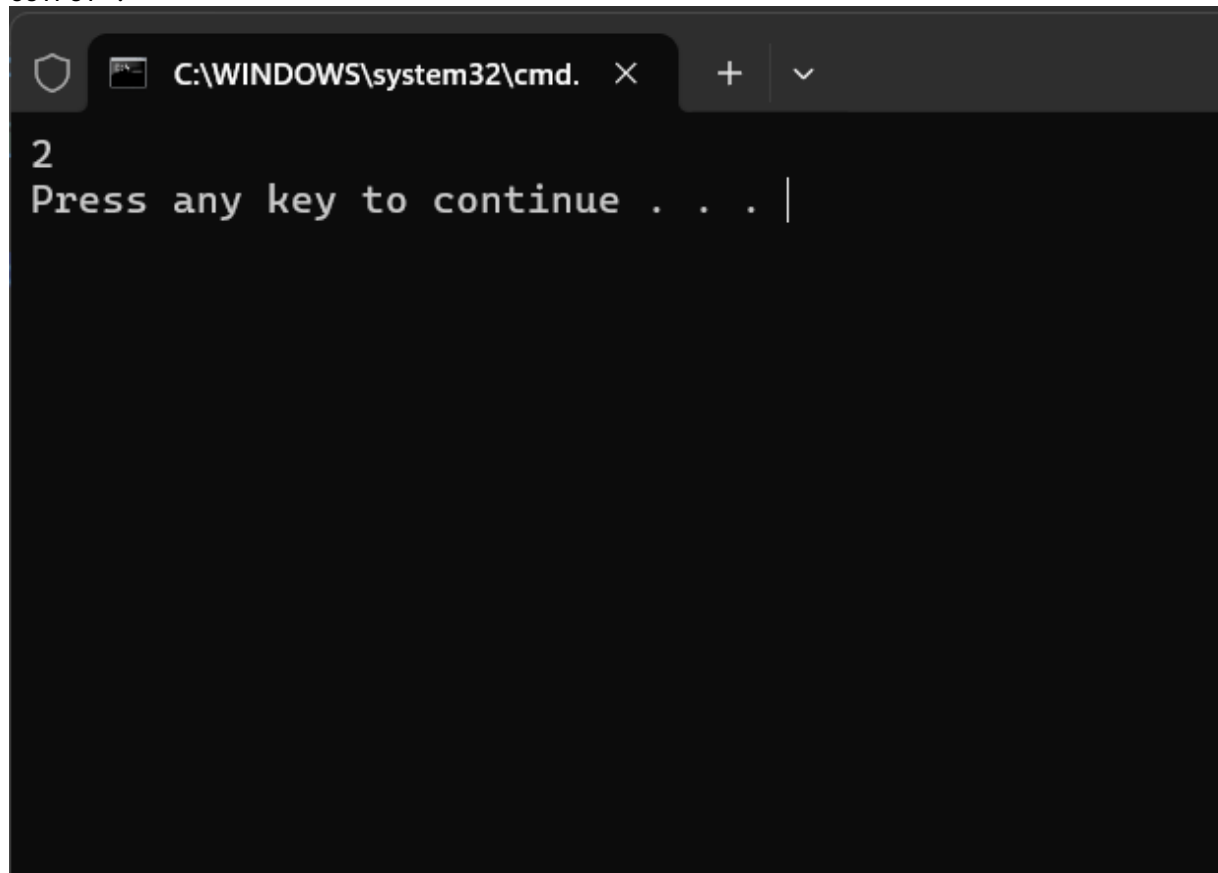
    for right, num in enumerate(nums):
        heapq.heappush(max_heap, (-num, right))
        heapq.heappush(min_heap, (num, right))

        while -max_heap[0][0] - min_heap[0][0] > limit:
            left = min(max_heap[0][1], min_heap[0][1]) + 1
            while max_heap[0][1] < left:
                heapq.heappop(max_heap)
            while min_heap[0][1] < left:
                heapq.heappop(min_heap)

        yield right - left + 1

nums=[8,2,4,7]
limit=4
result = max(longest_subarray(nums, limit))
print(result)
```

OUTPUT :

A screenshot of a Windows Command Prompt window. The title bar shows the path 'C:\WINDOWS\system32\cmd.' with a close button. The command prompt area is black with white text. It displays the number '2' on the first line, and on the second line, it says 'Press any key to continue . . . |' with a cursor at the end.

TIME COMPLEXITY : $O(n \log n)$