

24) Given an integer array nums, find the subarray with the largest sum, and return its sum.

Example 1:

Input: nums = [-2,1,-3,4,-1,2,1,-5,4]

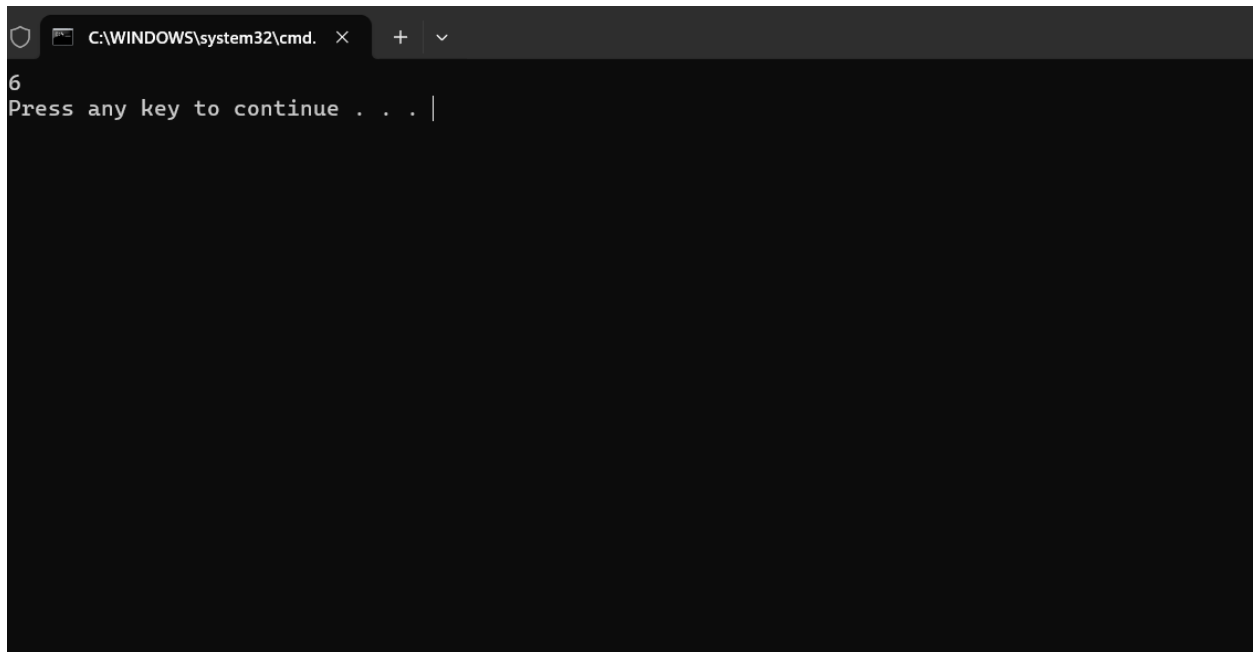
Output: 6

Explanation: The subarray [4,-1,2,1] has the largest sum 6.

CODE:

```
def max_subarray_sum(nums):  
    max_sum = float('-inf')  
    current_sum = 0  
    for num in nums:  
        current_sum = max(num, current_sum + num)  
        max_sum = max(max_sum, current_sum)  
  
    return max_sum  
nums = [-2, 1, -3, 4, -1, 2, 1, -5, 4]  
result = max_subarray_sum(nums)  
print(result)
```

OUTPUT:

A screenshot of a Windows command prompt window. The title bar shows the path 'C:\WINDOWS\system32\cmd.' and standard window controls. The command prompt displays the number '6' on the first line, followed by the text 'Press any key to continue . . . |' on the second line. The rest of the window is empty.

TIME COMPLEXITY : $O(n)$,