25. 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 += num
        if current_sum > max_sum:
            max_sum = current_sum
        if current_sum < 0:
            current_sum = 0

    return max_sum


nums = [-2, 1, -3, 4, -1, 2, 1, -5, 4]
result = max_subarray_sum(nums)
print(result)
```

Output:

Time Complexity:

- T(n)= O(n)