

7. Given a circular integer array `nums` of length `n`, return the maximum possible sum of a non-empty subarray of `nums`. A circular array means the end of the array connects to the beginning of the array. Formally, the next element of `nums[i]` is `nums[(i + 1) % n]` and the previous element of `nums[i]` is `nums[(i - 1 + n) % n]`. A subarray may only include each element of the fixed buffer `nums` at most once. Formally, for a subarray `nums[i], nums[i + 1], ..., nums[j]`, there does not exist $i \leq k_1, k_2 \leq j$ with $k_1 \% n == k_2 \% n$.

```
def maxSubarraySumCircular(nums):  
    def kadane(array):  
        current_max = global_max = array[0]  
        for num in array[1:]:  
            current_max = max(num, current_max + num)  
            global_max = max(global_max, current_max)  
        return global_max  
  
    max_kadane = kadane(nums)  
    total_sum = sum(nums)  
    nums_inverted = [-num for num in nums]  
    max_inverted_kadane = kadane(nums_inverted)  
    max_circular = total_sum + max_inverted_kadane  
    if max_circular == 0:  
        return max_kadane  
    return max(max_kadane, max_circular)  
  
nums = [5, -3, 5]  
print(maxSubarraySumCircular(nums))
```

INPUT:[5,-3,5]

TIME COMPLEXITY: $O(n)$

OUTPUT:

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  PORTS  TERMINAL
```

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P5 C:\Users\surya> & C:/Users/surya/AppData/Local/Programs/Python/Python312/python.exe c:/Users/surya/Untitled-1.py
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P5 C:\Users\surya> & C:/Users/surya/AppData/Local/Programs/Python/Python312/python.exe c:/Users/surya/Untitled-1.py
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```