



# STUDENT REPORT

## DETAILS

Name

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Roll Number

TEMPBTech-ECE010

## EXPERIMENT

Title

SUB ARRAY WITH MAX SUM

Description

You are given a list of integers, and your task is to find the subarray with the maximum sum. Write a function or method to solve this problem efficiently and return the maximum sum.

Input:

n: the no of elements in the array

nums (List of integers): A list of integers ( $1 \leq \text{len}(\text{nums}) \leq 10^5$ )

Sample input:

8

-1 2 3 10 -4 7 2 -5

Sample output:

20

Explanation:

The max subarry sum is 20. The subarray is [2,3,10,-4,7,2]

Source Code:

```
def max_subarray_sum(nums):  
  
    max_sum = float('-inf') # Initialize to negative infinity  
  
    current_sum = 0  
  
    for num in nums:  
        current_sum += num # Add the current number to the current sum  
  
        # Update max_sum if current_sum is greater  
        if current_sum > max_sum:  
            max_sum = current_sum  
  
        # Reset current_sum if it drops below 0  
        if current_sum < 0:  
            current_sum = 0  
  
    return max_sum  
  
# Input reading  
n = int(input().strip()) # Read the number of elements  
nums = list(map(int, input().strip().split())) # Read the list of integers  
  
# Calculate and print the maximum subarray sum  
result = max_subarray_sum(nums)  
print(result)
```

## RESULT

5 / 5 Test Cases Passed | 100 %