Logo

STUDENT REPORT

DETAILS

Name

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Roll Number

TEMPBTech-ECE004

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 <= len(nums) <= 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 %