

# All Subarray Sums + Final Max Sum (Using Loops)

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# □ Brute Force: Max Subarray Sum
# Time Complexity:  $O(n^2)$ 
# -----

arr = [2, -1, 4, -3, 5]
n = len(arr)

max_sum = float('-inf')

for start in range(n):
    for end in range(start, n):
        sub_sum = 0
        for k in range(start, end + 1): # Sum each subarray manually
            sub_sum += arr[k]

        print(f"Subarray from {start} to {end} → Sum: {sub_sum}")

        if sub_sum > max_sum:
            max_sum = sub_sum

print("\n□ Maximum Subarray Sum:", max_sum)
```

Subarray from 0 to 0 → Sum: 2  
Subarray from 0 to 1 → Sum: 1  
Subarray from 0 to 2 → Sum: 5  
Subarray from 0 to 3 → Sum: 2  
Subarray from 0 to 4 → Sum: 7  
Subarray from 1 to 1 → Sum: -1  
Subarray from 1 to 2 → Sum: 3  
Subarray from 1 to 3 → Sum: 0  
Subarray from 1 to 4 → Sum: 5  
Subarray from 2 to 2 → Sum: 4  
Subarray from 2 to 3 → Sum: 1  
Subarray from 2 to 4 → Sum: 6  
Subarray from 3 to 3 → Sum: -3  
Subarray from 3 to 4 → Sum: 2  
Subarray from 4 to 4 → Sum: 5

□ Maximum Subarray Sum: 7