Algorithm Mini Project

Aim: Maximum sub array

Code:

def maxSubArraySum(arr, size):

    max\_till\_now = arr[0]

    max\_ending = 0

    for i in range(0, size):

        max\_ending = max\_ending + arr[i]

        if max\_ending < 0:

            max\_ending = 0

        elif (max\_till\_now < max\_ending):

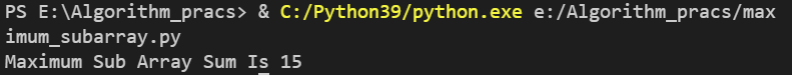
            max\_till\_now = max\_ending

    return max\_till\_now

arr = [-2, -8, 1, 4, 9, -2, 3]

print("Maximum Sub Array Sum Is", maxSubArraySum(arr, len(arr)))

Output:



Aim:Quick Sort Algorithm

def partition(arr, low, high):

    i = (low-1)

    pivot = arr[high]  # pivot element

    for j in range(low, high):

        # If current element is smaller

        if arr[j] <= pivot:

            # increment

            i = i+1

            arr[i], arr[j] = arr[j], arr[i]

    arr[i+1], arr[high] = arr[high], arr[i+1]

    return (i+1)

# sort

def quickSort(arr, low, high):

    if low < high:

        # index

        pi = partition(arr, low, high)

        # sort the partitions

        quickSort(arr, low, pi-1)

        quickSort(arr, pi+1, high)

# main

arr = [8, 3, 2, 5, 4, 1, 6, 9]

n = len(arr)

quickSort(arr, 0, n-1)

print("Sorted array is:")

for i in range(n):

    print(arr[i], end=" ")

Output:

