Write a program to given an integer array nums, find the subarray with the largest sum, and return its sum.

CODE:

import java.util.Scanner;

public class MaximumSubarraySum {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter the length of the array: ");

int length = scanner.nextInt();

int[] nums = new int[length];

System.out.println("Enter the elements of the array:");

for (int i = 0; i < length; i++) {

nums[i] = scanner.nextInt();

}

scanner.close();

int maxSum = findMaximumSubarraySum(nums);

System.out.println("The sum of the largest subarray is: " + maxSum);

}

public static int findMaximumSubarraySum(int[] nums) {

int maxSum = nums[0];

int currentSum = nums[0];

for (int i = 1; i < nums.length; i++) {

// Choose between extending the current subarray or starting a new subarray

currentSum = Math.max(nums[i], currentSum + nums[i]);

// Update the maximum sum if the current subarray sum is greater

maxSum = Math.max(maxSum, currentSum);

}

return maxSum;

}

}

OUTPUT:

C:\javap>javac MaximumSubarraySum.java

C:\javap>java MaximumSubarraySum

Enter the length of the array: 7

Enter the elements of the array:

1 2 3 4 -7 -8 -9

The sum of the largest subarray is: 10

