

# Problem C

## Game

Time limit: 1 second  
Memory: 1024 megabytes

### Problem Description

In a large entertainment park, there are many exciting and diverse games for tourists to participate in. Each game has its own level of appeal and is assigned a specific likability score. Tom is a visitor at this park, and he enjoys challenging himself by participating in a sequence of consecutive games. However, Tom does not want to play all the games; he only wants to choose the ones that bring the most joy, meaning those with the highest likability scores. He wants to optimize his play by selecting consecutive games that result in the highest possible total likability score.

The games in the park are arranged in a certain order from 1 to  $n$ , and each game has its own likability score, which can be a positive integer, negative integer, or zero. Tom's task is to choose a sequence of consecutive games such that the total likability score of the selected games is as large as possible. Additionally, Tom must play at least one game in the sequence.

This means that if there are games that Tom finds unappealing (with negative likability scores), he can choose to skip them and only participate in the more likable games. Tom is not restricted in the number of games he can participate in, but all the games he chooses must be consecutive. The question is, how can Tom optimize his play by calculating the highest possible total likability score from consecutive games?

Problem requirement: Write a program to help Tom determine the maximum total likability score he can achieve from one play. The program should read the input data consisting of the number of games and the likability score of each game, then calculate and output the highest possible total likability score that Tom can achieve by selecting consecutive games.

### Input structure:

- The first line contains a positive integer  $n$  ( $1 \leq n \leq 5 \times 10^5$ ), which is the number of games in the park.
- The second line contains  $n$  integers representing the likability scores of the games  $a_1, a_2, \dots, a_n$  (each  $a_i$  is an integer, and  $-10^9 \leq a_i \leq 10^9$ ). These integers are separated by spaces and represent the likability score of each game.

### Output structure:

- The program should output a single integer representing the maximum total likability score that Tom can achieve after selecting and playing at least one consecutive game from the  $n$  games in the park.

**Example:**

<b>INPUT</b>	<b>OUTPUT</b>
5 2 -5 4 -2 3	5

**Notes:**

- Tom chooses to play games 3, 4, and 5, with a total likability score of  $4 + (-2) + 3 = 5$