This is a two player game. Initially there are $n$ integer numbers in an array and players A and B get chance to take them alternatively. Each player can take one or more numbers from the left or right end of the array but cannot take from both ends at a time. He can take as many consecutive numbers as he wants during his time. The game ends when all numbers are taken from the array by the players. The point of each player is calculated by the summation of the numbers, which he has taken. Each player tries to achieve more points from other. If both players play optimally and player A starts the game then how much more point can player A get than player B?

## Input

The input consists of a number of cases. Each case starts with a line specifying the integer $n$ ($0 < n \leq 100$), the number of elements in the array. After that, $n$ numbers are given for the game. Input is terminated by a line where $n = 0$.

## Output

For each test case, print a number, which represents the maximum difference that the first player obtained after playing this game optimally.

## Sample Input

```
4
4 -10 -20 7
4
1 2 3 4
0
```

## Sample Output

```
7
10
```