Problem F
Overdraft
Time Limit: 1 Second(s)

Banks often charge overdraft fees if you attempt to withdraw more money from your account than is available in your current balance. Given a sequence of deposits and withdrawals (and assuming each deposit and withdrawal is immediately reflected in your balance), determine the minimum (non-negative) starting balance you need to ensure that you will not be charged any overdraft fees over the course of the sequence.

Input

The first line of input contains a single integer n ($1 \leq n \leq 1{,}000$), which is the number of transactions.

Each of the next n lines contains a single integer t ($-10^6 \leq t \leq 10^6$, $t \neq 0$). These are the transactions, in the order that they occur. A positive number represents a deposit, a negative number represents a withdrawal. No two transactions occur simultaneously.

Output

Output a single non-negative integer, which is the minimum non-negative balance you must start with in your account in order to avoid any overdraft fees.

Sample Input 1	Sample Output 1
3 3 −5 3	2

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