Successful Businessman

Group of **n** businessman are fed up with a new set of ‘customs’ - that state that if a large trading between two businessmen falls in such-and-such bracket, there is a so-and-so per-cent tax levied on that, which comes at the expense of both the businessmen. Naturally they conspire to look for loopholes in the system, for which they consult you.

Over the past few days the businessmen had made several purchases among themselves, and thus owe each other certain amounts of money (say ‘bias’.) In light of these new customs, they have decided to unite and help each other. They don’t care from which businessman their money is coming from, as long as that they get / pay their share of bias.

E.g.: If three businessman **A**, **B**, and **C** have bias **+20M**$**, **$ $-15M$ and **-5M**
$**respectively,**A**couldpayoff**B**and**C**directlyviaa**15M$ and a **5M**
$**trading,or**A**couldpay**B**and**C**10M$ **each and then** ****C** would pay **5M**
$**to**B**viaathirdtrading,resultinginalltrading's being**<=10M$.

That’s exactly why you’re being consulted: find the minimum amount **x** such that all bias can be satisfied by trade involving **<= x** amount of money (thereby evading customs as much as possible.) Note that some businessmen can have **0** biases, but will still help other businessmen for “future favors.” Also note that the government has imposed restrictions such that there can be only one trading between any two businessmen, and in only one direction (i.e A gives some amount to B or B gives some amount to A, but not both. Also A cannot pay B twice.) Furthermore, all trades must be in integral multiples of the unit currency.

Input Format

Input consists of a single test case. First line contains integer n, with 3 <= n <= 100. Second line contains a space-separated array a_i of n integers - the bias, with abs(a_i) <= 10^6, and sum(a_i) = 0.

Constraints

3 <= n <= 100

Output Format

Single line with an integer that is the minimum value possible: **x**.

Sample Input 0

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3
20 -15 -5
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Sample Output 0

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10
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