

Catnip Trading

Input file: **standard input**
Output file: **standard output**
Time limit: 1 second
Memory limit: 256 megabytes

Meow and his friends are obsessed with catnip. They all live on the same street and they decided to buy or sell some catnip one day. Surprisingly, demand and supply is always the same so that everyone gets what they want.

Unfortunately, transporting catnip from one house to another requires energy. Cats are known to be lazy creatures, they want to minimise their overall effort in transporting catnip from one house to another. Fortunately, all catnip are equally as good, they do not care where the catnip is from.

Meow and his friends lives along a straight line with equal distance between adjacent houses. Transporting one unit of catnip from one house to another adjacent house result in 1 unit of energy.

What is the minimum amount of energy needed to transport the catnips such that every cat has its demand fulfilled?

Input

The first line consists of the number of test cases, t ($1 \leq t \leq 100$)

Each test case starts with the number of residents on that street, n ($2 \leq n \leq 10^5$).

The following line will have n integers. For each a_i ($-1000 \leq a_i \leq 1000$), if $a_i > 0$, the resident in house i wants to buy a_i number of catnip; else if $a_i < 0$, the resident in house i wants to sell a_i number of catnip. You may assume that $\sum_{i=1}^n a_i = 0$.

Output

For each test case, print the minimum amount of energy needed so that every cat has its demand fulfilled.

Example

standard input	standard output
2	9
5	900
5 -4 1 -3 1	
6	
-100 -100 -100 100 100 100	