

Dumb Problem

Input file: *standard input*
Output file: *standard output*
Time limit: 1 second
Memory limit: 1024 mebibytes

You are given an integer sequence of length n : a_1, a_2, \dots, a_n . You can perform the following operation exactly once:

- Choose a permutation p_1, p_2, \dots, p_n of $1, 2, \dots, n$.
- Then, for i from 1 to n in the natural order, execute:

$$a_{p_i} \leftarrow a_{p_i} + a_{p_i-1} + a_{p_i+1},$$

where $a_0 = 0$ and $a_{n+1} = 0$.

Your goal is to maximize the sum of all elements in the sequence after the operation is completed.

Input

The first line contains a single integer t ($1 \leq t \leq 10^4$), the number of test cases. For each test case:

The first line contains an integer n ($1 \leq n \leq 2 \cdot 10^5$).

The second line contains n integers a_1, a_2, \dots, a_n ($-10^8 \leq a_i \leq 10^8$).

The sum of n does not exceed $2 \cdot 10^5$.

Output

For each test case, output a single line with an integer representing the maximum possible sum of all elements in the sequence after performing the operation.

Example

<i>standard input</i>	<i>standard output</i>
4	22
3	85
1 2 3	72
4	79
-1 3 7 6	
5	
4 1 0 5 2	
6	
4 -3 7 5 -9 3	