Pick It

Time limit: 1.0s   **Memory limit:** 64M

You are playing a game of Pick It. You are given a list of positive integers, and you are allowed to select any number other than the first or last number in this list. When you pick a number, that number is removed from the board, and your score increases by the sum of the number that you picked and the sum of the neighbouring numbers.

For example, if the list contained $1, 2, 3, 4, 5$ and you picked 3, your score would be $2 + 3 + 4 = 9$. On the next turn, your list would be $1, 2, 4, 5$, and if you picked 4 next, your score would be $9 + 2 + 4 + 5 = 20$, leaving you with the list $1, 2, 5$. The game concludes when there are only two numbers remaining.

Given a list of numbers, what is the maximum score that you can obtain?

Input Specification

The input will consist of a number of test cases (at most 200 test cases). A test case is of the form $n, k_1, k_2, \ldots, k_n$ where n $(n \leq 200)$ is the number of numbers in the list, and each integer k_i satisfies $1 \leq k_i \leq 100$. In all test cases $n \geq 3$, except in the case where $n = 0$, which indicates the end of input.

Output Specification

For each test case, output the maximum score attainable.

Sample Input

```
5 1 2 3 4 5
5 2 1 5 3 4
6 30 20 40 50 70 60
0
```

Output for Sample Input

```
30
31
570
```