Math Costs Bucks

Program Name: `MathCosts.java` **Input File:** `mathCosts.dat`

Mathematicians are expensive! When you assign them to a project, there will be big bucks to pay. You have been hired to write a program to estimate the cost of addition (phase 1 of the project). The given numbers must be added together, but the order of addition matters.

The cost of the addition operation is the summation of the numbers to be added. So, to add **1** and **10**, you incur a cost of **11**. If you want to add **1**, **2** and **3**, there are several ways…

1 + 2 = 3, cost = 3 3 + 3 = 6, cost = 6 Total = 9	1 + 3 = 4, cost = 4 2 + 4 = 6, cost = 6 Total = 10	2 + 3 = 5, cost = 5 1 + 5 = 6, cost = 6 Total = 11

Your mission is to find the lowest cost to add a set of integers.

Input

Each test case will start with a positive number, **N (2 ≤ N ≤ 5000)** followed by **N** positive integers (all are less than **100,000**). Input is terminated by a case where the value of **N** is zero. This case should not be processed.

Output

For each case print the minimum total cost of addition in a single line.

Sample Input

```
3
1 2 3
4
1 2 3 4
0
```

Sample Output

```
9
19
```