

Department of Electrical and Computer Engineering
North South University
CSE 225: Data Structures and Algorithms
Section 1
Assignment 3
Problem Title: Add All
Deadline: 16 April 2020

Instruction

Please submit your assignment by the given deadline. Your report should include (1) the choice of data structures to solve the problem, (2) code containing the implementation of the given problem using a data structure of your own choice. You may need to build a new data structure if you wish. Your report should be compiled into a single pdf file and should be submitted via the Google Classroom.

Problem

Yup!! The problem name reflects your task; just add a set of numbers. But you may feel yourselves condescended, to write a C/C++ program just to add a set of numbers. Such a problem will simply question your erudition. So, lets add some flavor of ingenuity to it.

Addition operation requires cost now, and the cost is the summation of those two to be added. So, to add 1 and 10, you need a cost of 11. If you want to add 1, 2 and 3, there are several ways to do this.

1 + 2 = 3 , cost = 3 3 + 3 = 6, cost = 6 Total = 9	1 + 3 = 4, cost = 4 4 + 2 = 6, cost = 6 Total = 10	2 + 3 = 5, cost = 5 5 + 1 = 6, cost = 6 Total = 11
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I hope you have already understood your mission which is to add a set of integers so that the cost is minimal.

Input

Each test case will start with a positive number, N ($2 \leq N \leq 5000$) followed by N positive integers (all are less than 100000). 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