

Problem: Add All

Given a set of numbers your goal is to add them all, while minimizing the cost of the addition. At any point, you may choose to add **any two of the integers**. The cost of doing so is simply the sum of the two numbers. For example, the cost of adding 1 and 10 is 11. 3, 6 and 2 can be added in several different ways. The minimum cost comes from adding 2+3 first to yield 5 and 5+6 to yield 11. The total cost for these two operations is 16 (5 + 11). Given a sequence of numbers calculate the minimum cost to add them into a single integer.

Input

First line of the input contains T the number of test cases. First line of each test case contains N the number of integers in the sequence. Second line contains N integers separated by a single space. N is between 1 and 500 inclusive. Each of the integers in the sequence will be between 1 and 500.

Output

For each test case output contains a single integer denoting the minimum cost.

Sample Input	Sample output
3	9
3	19
1 2 3	9
4	
1 2 3 4	
3	
1 3 2	