**[Minimize the sum](https://practice.geeksforgeeks.org/problems/86e609332c9ef4f6b8aa79db11a6c0808c4a1bca/1)**

You are given **N** elements, you can remove any two elements from the list, note their sum, and add the sum to the list. Repeat these steps while there is more than a single element in the list. The task is to **minimize** the sum of these chosen sums.

**Example 1:**

**Input:**

N = 4

arr[] = {1, 4, 7, 10}

**Output:**

39

**Explanation:**

Choose 1 and 4, Sum = 1 + 4 = 5.

arr[] = {5, 7, 10}

Choose 5 and 7, Sum = 5 + (5 + 7) = 17.

arr[] = {12, 10}

Choose 12 and 10, **Sum = 17 + (12 + 10) = 39.**

arr[] = {22}

**Example 2:**

**Input:**

N = 5

arr[] = {1, 3, 7, 5, 6}

**Output:**

48

**Your Task:**

You don't need to read input or print anything. The task is to complete the function **minimizeSum()** which takes N as size of arr array and a arr array. Your task is to **minimize** the sum of these chosen sums and return it.

**Expected Time Complexity:** O(N \* log(N))  
**Expected Auxiliary Space:** O(N)

**Constraints:**

1 <= N, arr[i] <= 105