**Minimum Cost Tree**

You're given N nodes, every node has some weight Ai.  
You want to make a tree out of these N nodes but there is some cost of joining two nodes. The cost of adding an edge between two nodes X and Y is Cost(X) + Cost(Y).  
The Cost(K) function gives the sum of weights of all nodes that are currently reachable from K including K.  
Find the minimum cost for making the tree.

***Problem Constraints***

\begin{aligned} 1 <= N <= 10^5 \\ 1 <= Ai <= 10^9 \\ \end{aligned}1<=*N*<=1051<=*Ai*<=109​

### Input Format

* First argument A is an integer array.

### Output Format

* Return an integer.

### Example

***Example Input*** Input 1:

A = [1, 1, 1]

Input 2:

A = [1, 2, 3]

***Example Output*** Output 1:

5

Output 2:

9

***Example Explanation***

**Explanation 1:**  
The cost of joining node 1 and 2 is 1 + 1 = 2  
The cost of joining node 2 and 3 is 2 + 1 = 3. Total cost = 2 + 3 = 5.

**Explanation 2:**  
The cost of joining node 1 and 2 is 1 + 2 = 3  
The cost of joining node 2 and 3 is 3 + 3 = 6  
Total cost = 3 + 6 = 9.