Problem 1: WoW MST!!

Time Limit: 1 sec

Memory Limit: 32 MB

To be honest, this problem don't have any story :). You are given a **complete graph**[1], with **N** nodes. **i-th** node has some value $\mathbf{a_i}$ written on it. A edge connecting **i-th** node and **j-th** node has cost $\mathbf{|a_i - a_j|}$. Find the sum of the edge costs of its **Minimum Spanning Tree**[2]

Input Description

First line of the input file contains a number **N.** In the next line there will be **N** numbers - $\mathbf{a_1, a_2, a_3, \ldots a_n}$ - The numbers written on **i-th** node.

Output Description

Print the desired answer in a seperate line.

Constrains

For 30% of the total score, **N <= 100**

For perfect score, **N <= $2*10^5$**

Sample

Input	Output
4 -1 0 3 4	5

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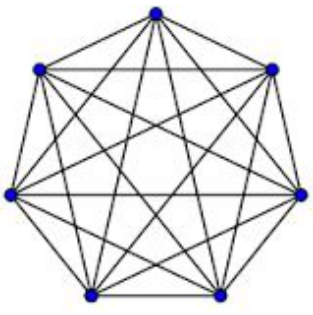
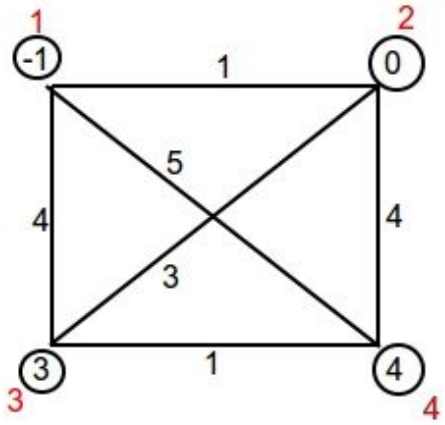
[1]: Complete graph is a simple undirected **graph** in which every pair of distinct vertices is connected by a unique edge. Such as a Complete Graph with 7 node may look like this -



[2]: Minimum spanning tree (MST) is a subset of the edges of a graph that connects all the vertices together, without any cycles and with the **minimum** possible total edge weight.

Explanation



First we find the edge costs -
1 -> 2 = | 0 - (-1) | = 1
1 -> 3 = | 3 - (-1) | = 4

.....
We write the costs beside edge.
Now we need to select a subset of the edges such that those edges contains all nodes in the graph without making any cycles, and we need to minimize the sum of the costs.
We can easily see that is we select edges 1 -> 2, 2 -> 3 and 3 -> 4, then this set contains all nodes, and the sum of edge costs is 1 + 3 + 1 = 5. We can easily see that there are no other subset that will make sum less than this. So answer is 5.