

Problem K. King's Roads

Input file: *standard input*
Output file: *standard output*
Time limit: 2 seconds
Memory limit: 256 mebibytes

King Byteasar wants to introduce an innovative road network in Byteland. There are n cities in Byteland. There are a_i citizens living in i -th city.

Initially, there are no roads in Byteland. The king wants to build several roads in such a way that all cities are connected (directly or indirectly). He also wants to minimize expenses on maintaining the roads.

Naturally, if a road connects populous cities, it is used more heavily and thus is more expensive to maintain. Formally, maintaining a road between cities i and j costs $a_i + a_j$ bytalers per year. However, if $a_i + a_j$ is at least M , the road is considered a *national highway*, and it brings revenue of M bytalers per year from taxation (thus, the effective cost for this road is $a_i + a_j - M$ per year). Note that all a_i are less than M .

Help King Byteasar find the minimum annual cost for maintaining a set of roads so that all cities become connected.

Input

The first line of input contains two space-separated integers n and M ($1 \leq n \leq 200\,000$, $1 \leq M \leq 10^9$).
The second line contains n space-separated integers a_1, \dots, a_n ($0 \leq a_i < M$).

Output

Print one integer — the minimum annual cost for maintaining a spanning set of roads in bytalers.

Example

standard input	standard output
5 9 1 3 5 8 8	6