

Problem F. Build the Graph

Input file: *standard input*
Output file: *standard output*
Time limit: 1 second
Memory limit: 512 mebibytes

For an undirected graph G with n nodes and m edges, we can define the distance $dist(i, j)$ as the length of the shortest path between nodes i and j . The length of a path is equal to the number of edges in the path. If there is no path between i and j , we set $dist(i, j)$ equal to n .

Then, we can define w_G , the weight of the graph G , as $\sum_{i=1}^n \sum_{j=1}^n dist(i, j)$.

Now, given n nodes and no edges initially, we will choose no more than m pairs of nodes (i, j) ($i \neq j$) and add an edge between the respective nodes for every chosen pair. This way, we can get an undirected graph G with n nodes and no more than m edges.

Your task is to find the minimal possible value of w_G after such construction.

Input

The first line of the input contains two integers n and m ($1 \leq n \leq 10^6$, $1 \leq m \leq 10^{12}$).

Output

Print a single line with a single integer: the minimum possible value of w_G .

Example

standard input	standard output
4 5	14

Note

In the example, we can choose to add edges $(1, 2)$, $(1, 4)$, $(2, 4)$, $(2, 3)$ and $(3, 4)$.