

Problem B. Balanced Permutations

Input file: **standard input**
Output file: **standard output**
Time limit: 6 seconds
Memory limit: 256 megabytes

Given a permutation p of size n , let a (contiguous) subarray of p be ‘unstable’ if the maximum value contained within the subarray is its first or last element. A permutation is considered ‘balanced’ if it has the minimum number of ‘unstable’ subarrays over all permutations of size n .

Given integers n, l , and k , report the l -th lexicographically-minimum ‘balanced’ permutation and the k -th lexicographically-maximum ‘balanced’ permutation of size n . If no such permutation exists output -1 instead.

Input

The only line of input contains three integers n, l , and k ($1 \leq n \leq 10^5$, $1 \leq l, k \leq 10^{18}$) — the length of the desired permutation and the indices of which lex-min and lex-max permutation should be provided.

Output

Output two lines. The first line should contain the l -th lexicographically-minimum ‘balanced’ permutation of size n — denoted p .

The second line should contain the k -th lexicographically-maximum ‘balanced’ permutation of size n — denoted q .

p and q should satisfy $1 \leq p_i, q_i \leq n$ for all $1 \leq i \leq n$.

If p or q does not exist (ie. there do not exist l or k ‘balanced’ permutations of size n) then report an answer of -1 instead.

Examples

standard input	standard output
3 1 2	1 3 2 1 3 2
4 9 13	3 1 4 2 -1