

C. Secret

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

The Greatest Secret Ever consists of n words, indexed by positive integers from 1 to n . The secret needs dividing between k Keepers (let's index them by positive integers from 1 to k), the i -th Keeper gets a **non-empty** set of words with numbers from the set $U_i = (u_{i,1}, u_{i,2}, \dots, u_{i,|U_i|})$. Here and below we'll presuppose that the set elements are written in the increasing order.

We'll say that the *secret is safe* if the following conditions are hold:

- for any two indexes i, j ($1 \leq i < j \leq k$) the intersection of sets U_i and U_j is an empty set;
- the union of sets U_1, U_2, \dots, U_k is set $(1, 2, \dots, n)$;
- in each set U_i , its elements $u_{i,1}, u_{i,2}, \dots, u_{i,|U_i|}$ **do not form** an arithmetic progression (in particular, $|U_i| \geq 3$ should hold).

Let us remind you that the elements of set (u_1, u_2, \dots, u_s) form an arithmetic progression if there is such number d , that for all i ($1 \leq i < s$) fulfills $u_i + d = u_{i+1}$. For example, the elements of sets (5), (1, 10) and (1, 5, 9) form arithmetic progressions and the elements of sets (1, 2, 4) and (3, 6, 8) don't.

Your task is to find any partition of the set of words into subsets U_1, U_2, \dots, U_k so that the secret is safe. Otherwise indicate that there's no such partition.

Input

The input consists of a single line which contains two integers n and k ($2 \leq k \leq n \leq 10^6$) — the number of words in the secret and the number of the Keepers. The numbers are separated by a single space.

Output

If there is no way to keep the secret safe, print a single integer "-1" (without the quotes). Otherwise, print n integers, the i -th of them representing the number of the Keeper who's got the i -th word of the secret.

If there are multiple solutions, print any of them.

Examples

input
11 3
output
3 1 2 1 1 2 3 2 2 3 1

input
5 2
output
-1