

Competitive Programming SS24

Submit until end of contest



Problem: Bead Bestowal (1 second timelimit)

As a renowned and respected trader of precious stones and jewelry, you possess a collection of exquisite beads, each with a unique integer value within the range $[L, R]$. Among your clientele, there is a loyal group of exactly $R - L + 1$ buyers who have consistently purchased jewels from you over the years. Each buyer has a unique integer credit value within the range $[L, R]$.

Having decided to retire from the jewelry trade, you wish to bestow your final collection of beads upon these faithful buyers. However, you have two specific conditions:

- To have a just and memorable farewell, you want to give each of the buyers exactly one bead. Note that you can not give one bead to more than one buyer.
- Additionally, the greatest common divisor (GCD) of a buyer's credit value and the value of the bead given to them must be 1.



Before proceeding with the distribution, you want to determine if such an arrangement is feasible. If it is possible, you also need to determine which bead should go to which buyer.

Input The input consists of:

- One line with two integers L, R ($1 \leq L \leq R \leq 10^9$), the range of bead values.
- It is guaranteed that $R - L + 1$ does not exceed 10^5 .

Output On a single line, output a valid assignment of beads to buyers as a space-separated list of integers: the first number should be the credit value of the buyer who receives the bead of value L , the second — buyer who receives the bead of value $L + 1$, and so on.

If the assignment according to the requirements in the statement is not possible, output a single number -1 instead.

Sample Input 1

1 2

Sample Output 1

2 1

Sample Input 2

10 13

Sample Output 2

13 12 11 10

Sample Input 3

100 100

Sample Output 3

-1

Sample Input 4

1 1

Sample Output 4

1