D. Ehab the Xorcist

difficulty: 1700
time limit per test1 second
memory limit per test256 megabytes
inputstandard input
outputstandard output

Given 2 integers u and v, find the shortest array such that bitwise-xor (https://en.wikipedia.org/wiki/Bitwise_operation#XOR) of its elements is u, and the sum of its elements is v.

Input
The only line contains 2 integers and u and v $(0 \le u, v \le 10^{18})$.

Output
If there's no array that satisfies the condition, print "-1". Otherwise:

The first line should contain one integer, n, representing the length of the desired array. The next line should contain n **positive** integers, the array itself. If there are multiple possible answers, print any.

Examples
input
2 4
output
2
3 1

input
1 3
output
3
1 1 1

input
8 5
output
-1

input
0 0
output
0

Note
In the first sample, $3 \oplus 1 = 2$ and $3 + 1 = 4$. There is no valid array of smaller length.

Notice that in the fourth sample the array is empty.

1325D Ehab the Xorcist
bitmasks, constructive algorithms, greedy, number theory
https://codeforces.com/contest/1325/problem/D
github.com/andy489