Coprime Array

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Given two integers s and x, find any shortest array such that the sum of its elements is s, and all elements are coprime to x.

Two integers are *coprime* if the only positive integer that divides both of them is 1.

Input

The only line contains the integers s and x ($2 \leq s, x \leq 10^9$).

Output

If there is no array that satisfies the condition, print a single integer -1.

Otherwise, the first line should contain one integer n ($1 \leq n \leq 10^6$) — the length of the array. The next line should contain n space-separated integers — the array itself. The elements of the array should not exceed 10^9 in absolute value.

If there are multiple possible answers, print any. We have a proof that if a solution exists, then there exists a solution satisfying the constraints above.

Examples

standard input	standard output
9 6	3 -7 -7 23
14 34	2 83 -69