Good Coach

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	1024 mebibytes

On one of the planets in a far, far away galaxy, a numeral system with base b is used. In one of the major cities on this planet, there is a developed network of buses. The routes of the buses are numbered with positive integers.

One day, the Intergalaxy Collegiate Programming Contest (ICPC) Finals was held in this city. The coach of the team from Earth noticed an interesting fact: at the stop near the contest venue, there are x bus route numbers written on the banner, and each of the b digits appears on this banner exactly once.

The coach found that this fact is funny and asked his team to check for given x and b whether such a situation is possible, and if it is, output the b-ary representation of the minimum possible value of the largest number to be written on the banner in this case.

Input

The first line contains one integer x — the number of bus routes whose numbers are displayed on the banner ($1 \le x \le 100$). The second line contains one integer b ($2 \le b \le 100$) — the base of the numeral system.

Output

If the situation is impossible, output -1. Otherwise, output the b-ary representation of the minimum possible value of the largest bus route number displayed on the banner, as a sequence of integers representing the corresponding digits in decimal notation, ordered from the most significant b-ary digit to the least significant. For example, the number $\texttt{CD3}_{16}$ should be output as "`12 13 3`".

Examples

standard input	*standard output*
10 10	-1
9 10	1 0

Note

In the first example, it is impossible to form 10 positive numbers from the 10 digits of the decimal system in the required way, as 0 is not a positive number. In the second example, the list of routes will be 10, 2, 3, 4, 5, 6, 7, 8, 9.