

C. Given Length and Sum of Digits...

time limit per test: 1 second

memory limit per test: 256 megabytes

input: standard input

output: standard output

You have a positive integer m and a non-negative integer S . Your task is to find the smallest and the largest of the numbers that have length m and sum of digits S . The required numbers should be non-negative integers written in the decimal base without leading zeroes.

Input

The single line of the input contains a pair of integers m, s ($1 \leq m \leq 100, 0 \leq s \leq 900$) — the length and the sum of the digits of the required numbers.

Output

In the output print the pair of the required non-negative integer numbers — first the minimum possible number, then — the maximum possible number. If no numbers satisfying conditions required exist, print the pair of numbers "-1 -1" (without the quotes).

Examples

input
2 15
output
69 96
input
3 0
output
-1 -1

Codeforces Round #277.5 (Div. 2)

Finished

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.


Start virtual contest

→ Problem tags

dp greedy implementation

No tag edit access

→ Contest materials

- Announcement 
- Tutorial 