

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

Copy

2 15

output

Copy

69 96

input

Copy

3 0

output

Copy

-1 -1