Problem K. Kalevich's Key Knowledge

Time limit: 2 seconds

In his book "The Art of Squares" famous artist Kalevich wrote about the main secret of his method to create square paintings: first Kalevich thinks of two digits $a > 0$ and b, then the size of the new painting is the **smallest** positive integer x with the following properties:

- The first digit of the decimal notation of the number x is the given digit a.
- The last digit of the decimal notation of the number x is the given digit b.
- The number x is a perfect square, meaning there exists an integer y such that $y \cdot y = x$.

Find such x by the digits a and b that Kalevich thought of, or report that such x doesn't exist.

Input

The first line of the input contains a single integer a ($1 \le a \le 9$), specifying the first digit of the number x. The second line of the input contains a single integer b ($0 \le b \le 9$), specifying the last digit of the number x.

Output

Print the smallest value of the perfect square starting with a and ending with b, or -1 if such x does not exist.

Examples

standard input	*standard output*
4 4	4
2 6	256
1 7	-1
1 0	100

Note

In the first sample, the answer is the number 4 — for a one-digit number, the first digit is at the same time the last one.

In the second sample, the answer is the number 256 ($16 \cdot 16$), as 26, 206, 216, 226, 236, and 246 are not perfect squares.