A *modified Kaprekar number* is a positive whole number with a special property. If you square it, then split the number into two integers and sum those integers, you have the same value you started with.

Consider a positive whole number n with d digits. We square n to arrive at a number that is either $2 \times d$ digits long or $(2 \times d) - 1$ digits long. Split the string representation of the square into two parts, l and r. The right hand part, r must be d digits long. The left is the remaining substring. Convert those two substrings back to integers, add them and see if you get n.

For example, if $n = 5$, $d = 1$ then $n^2 = 25$. We split that into two strings and convert them back to integers 2 and 5. We test $2 + 5 = 7 \neq 5$, so this is not a modified Kaprekar number. If $n = 9$, still $d = 1$, and $n^2 = 81$. This gives us $1 + 8 = 9$, the original n.

Note: r may have leading zeros.

Here's an explanation from Wikipedia about the **ORIGINAL** Kaprekar Number (spot the difference!):

> In mathematics, a Kaprekar number for a given base is a non-negative integer, the representation of whose square in that base can be split into two parts that add up to the original number again. For instance, 45 is a Kaprekar number, because $45^2 = 2025$ and $20+25 = 45$.

Given two positive integers p and q where p is lower than q, write a program to print the modified Kaprekar numbers in the range between p and q, inclusive.

Function Description

Complete the *kaprekarNumbers* function in the editor below. It should print the list of modified Kaprekar numbers in ascending order.

kaprekarNumbers has the following parameter(s):

- *p*: an integer
- *q*: an integer

Input Format

The first line contains the lower integer limit p.
The second line contains the upper integer limit q.

Note: Your range should be inclusive of the limits.

Constraints

$0 < p < q < 100000$

Output Format

Output each modified Kaprekar number in the given range, space-separated on a single line. If no modified Kaprekar numbers exist in the given range, print `INVALID RANGE`.

Sample Input

```
1
100
```

Sample Output

1 9 45 55 99

Explanation

1, 9, 45, 55, and 99 are the Kaprekar Numbers in the given range.