



All Domains > Algorithms > Implementation > Modified Kaprekar Numbers

Badge Progress (Details)

Points: 730.13 Rank: 15336

Modified Kaprekar Numbers



by PRASHANTB1984

Problem

Submissions

Leaderboard

Discussions

Editorial

Topics

Problem Statement

A modified *Kaprekar number* is a positive whole number n with d digits, such that when we split its square into two pieces - a right hand piece r with d digits and a left hand piece l that contains the remaining d or $d - 1$ digits, the sum of the pieces is equal to the original number (i.e. $l + r = n$).

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 $20+25 = 45$.*

The Task

You are given the two positive integers p and q , where p is lower than q . Write a program to determine how many Kaprekar numbers are there in the range between p and q (both inclusive) and display them all.

Input Format

There will be two lines of input: p , lowest value q , highest value

Constraints:

$$0 < p < q < 100000$$

Output Format

Output each Kaprekar number in the given range, space-separated on a single line. If no 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.

[Related Topics](#)[Integer to Array](#)**Submissions:** 7024**Max Score:** 30**Difficulty:** Easy[More](#)

Current Buffer (saved locally, editable)  

Java 8  

```
1 import java.io.*;
2 import java.util.*;
3
4 public class Solution {
5
6     public static void main(String[] args) {
7         /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named
8         Solution. */
9     }
10 }
```

Line: 1 Col: 1

 [Upload Code as File](#) ☐ [Test against custom input](#)

Run Code

Submit Code

Join us on IRC at [#hackerrank](#) on freenode for hugs or bugs.

[Contest Calendar](#) | [Blog](#) | [Scoring](#) | [Environment](#) | [FAQ](#) | [About Us](#) | [Support](#) | [Careers](#) | [Privacy Policy](#) | [Request a Feature](#)