**Siena College’s 33rd Annual** **High School Programming Contest**

**Sponsored by Transfinder**

**June 2, 2021**

###### **Gold Problem #4:  Is it a bird? Is it a plane? No, It’s a Superpower**

Background Information:

A Superpower number, N, with K (base-10) digits is a positive integer such that it is the sum of the Kth power of each individual digit.  For example, the number 407 is a Superpower number because

407=43+03+73

Your program will be given an inclusive interval [Min, Max].  It will then print the number of Superpower numbers in the interval found, followed by the Superpower numbers themselves, one number per line in increasing order.

Programming Problem:

Input:  Positive integers Min and Max on one input line, where 1 ≤ Min ≤ Max ≤ 100,000,000

Output: The number of Superpower numbers in the interval, followed by the Superpower numbers themselves in increasing order, with each number on its own line.

Example 1: Input:

 1 4

 Output:

4

1

2

3

4

Example 2: Input:

 405 409

 Output:

1

407

Example 3: Input:

 10 67

 Output:

0