In recreational mathematics, a [harshad number](https://en.wikipedia.org/wiki/Harshad_number) in a given number base is an integer that is divisible by the sum of its digits when written in that base. For example, 18 is a harshad number in base 10 because the sum of its digits (1 and 8) is 9, and 18 is divisible by 9. Harshad numbers were defined by [D. R. Kaprekar](https://en.wikipedia.org/wiki/D._R._Kaprekar), a mathematician from India.

You will be provided with 2 positive integers num1 and num2 (in base 10). Your mission is to calculate the value of the num2th *harshad number* modulo the num1th *harshad number*.

**Example**

For num1 = 12 and num2 = 20, the output should be  
moduloHarshad(num1, num2) = 6.

The 20th harshad number is 42 and the 12th harshad number is 18. 42 % 18 is 6.

**Input/Output**

* **[time limit] 3000ms (cs)**
* **[input] integer64 num1**

*Constraints:*  
1 ≤ num1 ≤ 105.

* **[input] integer64 num2**

*Constraints:*  
1 ≤ num2 ≤ 105.

* **[output] integer64**

The value of the num2th *harshad number* modulo the num1th *harshad number*

<https://codefights.com/challenge/AWSp2cFm94tw4Eeeb?utm_source=featuredChallenge&utm_medium=email&utm_campaign=email_notification>

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

namespace ConsoleApplication1

{

class Program

{

static bool esHarshad(long n)

{

return n % n.ToString().Sum(e => e - '0') == 0;

}

static long moduloHarshad(long num1, long num2)

{

int kth\_a =0, kth\_b=0;

long a = 0, b = 0;

//long min = Math.Min(num1, num2);

//long max = Math.Max(num1, num2);

for (int i = 1; kth\_a < num1; i++)

{

if (esHarshad(i))

{

a = i;

kth\_a++;

}

}

//kth\_b = kth\_a;

for (long i = 1; kth\_b < num2; i++)

{

if (esHarshad(i))

{

b = i;

kth\_b++;

}

}

Console.WriteLine(a + " " + b);

return b % a;

}

static void Main(string[] args)

{

//long num1 = 12;

//long num2 = 20;

long num1= 2017;

long num2 = 1985;

Console.WriteLine( moduloHarshad(num1, num2));

//int a = 12432, b = 12660;

//Console.WriteLine(a % b);

//Console.WriteLine(b % a);

Console.ReadLine();

}

}

}