

Harshad Numbers Problem

A Harshad number is a positive integer that is divisible by the sum of its digits. They are also called Niven numbers.

For example, 720 is a Harshad number because $7 + 2 + 0 = 9$, which divides evenly into 720. Write a program that determines how many Harshad numbers are in the largest consecutive sequence of Harshad numbers in a given range.

Input (*harshad.txt*)

The input file will contain five sets of data. Each set of data will contain two lines, with the first line containing an integer, m , the lower bound of the range and the second line containing an integer, n , the upper bound of the range.

$0 < m < n \leq 1000000$.

Output

The output will list the length of the largest consecutive sequence of Harshad numbers .

Sample Input (3 sets of data only)

80
100
1000
10000
500
525

Sample Output

2
4
4

Explanation of the output for the first set...

The Harshad numbers in the range 80 to 100 are: 80, 81, 84, 90 and 100. The largest consecutive sequence is 80, 81 which consists of 2 numbers.

<http://mathworld.wolfram.com/HarshadNumber.html>