In 1949 the Indian mathematician D.R. Kaprekar discovered a class of numbers called self-numbers. For any positive integer n, define $d(n)$ to be n plus the sum of the digits of n. (The d stands for *digitadition*, a term coined by Kaprekar.) For example, $d(75) = 75 + 7 + 5 = 87$. Given any positive integer n as a starting point, you can construct the infinite increasing sequence of integers n, $d(n)$, $d(d(n))$, $d(d(d(n)))$, ... For example, if you start with 33, the next number is $33 + 3 + 3 = 39$, the next is $39 + 3 + 9 = 51$, the next is $51 + 5 + 1 = 57$, and so you generate the sequence

33, 39, 51, 57, 69, 84, 96, 111, 114, 120, 123, 129, 141, ...

The number n is called a ***generator*** of $d(n)$. In the sequence above, 33 is a generator of 39, 39 is a generator of 51, 51 is a generator of 57, and so on. Some numbers have more than one generator: for example, 101 has two generators, 91 and 100. A number with ***no*** generators is a $\boldsymbol{self-number}$. There are thirteen self-numbers less than 100: 1, 3, 5, 7, 9, 20, 31, 42, 53, 64, 75, 86, and 97.

Write a program to output all positive self-numbers less than or equal 1000000 in increasing order, one per line.

Sample Output

```
1
3
5
7
9
20
31
42
53
64
 |
 |       <-- a lot more numbers
 |
9903
9914
9925
9927
9938
9949
9960
9971
9982
9993
 |
 |
 |
```