

## Problem P. Three digit numbers

**Time limit** 1000 ms

**Mem limit** 131072 kB

Find all three digit numbers with sum of digits equals to  $n$ .

### Input

One integer  $n$  ( $0 \leq n \leq 28$ ).

### Output

Print in the first line the number of found three digit numbers. In the next lines print these numbers in increasing order.

### Example

Input	Output
3	6 102 111 120 201 210 300