

## 2019 ... AND THE ALLUSIONAL ALMANAC

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In *“The Masked Lady and the Allusional Almanac”* after a jaunty journey through jeopardous jungle, our heroine found the remains of an ancient civilisation. After decoding divers dubious dates she determined that the civilisation had marked the days by using numbers that described themselves. The novel’s concluding remarks, that the civilisation’s collapse was caused by complexity, being seen as thinly veiled allusion against industrialisation.

Each date was represented by a number that described itself by being read as a count of each digit 0, ..., 9 occurring in the number. The  $d^{\text{th}}$  day since the foundation of the civilisation was represented by the  $d^{\text{th}}$  such number. A date only consisted of digits and their counts, counts always appeared immediately before the corresponding digit, and no digit and its count were repeated or overlapped.

For example:

- the first recorded day was 22 (two 2s);
- the second was 10123133 (one 0, one 2, three 1s and three 3s);
- the 500<sup>th</sup> day was 31143312.

The input will consist of a single integer,  $d$  ( $1 \leq d \leq 2^{24}$ ), indicating a date. Test input will always be for a date that can be represented.

### SAMPLE INPUT

500

You should output a single integer, the civilisation’s representation for day  $d$ .

### SAMPLE OUTPUT

31143312