C. Unique Number

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

You are given a positive number x. Find the smallest positive integer number that has the sum of digits equal to x and all digits are **distinct** (unique).

Input

The first line contains a single positive integer t ($1 \le t \le 50$) — the number of test cases in the test. Then t test cases follow.

Each test case consists of a single integer number x ($1 \le x \le 50$).

Output

Output t answers to the test cases:

- if a positive integer number with the sum of digits equal to x and all digits are different exists, print the smallest such number;
- otherwise print -1.

Example

input

```
4
1
5
15
50
```

output

```
1
5
69
-1
```


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