# Problem D. Digital roots

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|---|---|
| Source file name: | D.c, D.cpp, D.java, D.py |
| Input: | `Standard` |
| Output: | `Standard` |

The digital root of a positive integer is found by summing the digits of the integer. If the resulting value is a single digit then that digit is the digital root. If the resulting value contains two or more digits, those digits are summed and the process is repeated. This is continued as long as necessary to obtain a single digit.

For example, consider the positive integer 24. Adding the 2 and the 4 yields a value of 6. Since 6 is a single digit, 6 is the digital root of 24. Now consider the positive integer 39. Adding the 3 and the 9 yields 12. Since 12 is not a single digit, the process must be repeated. Adding the 1 and the 2 yields 3, a single digit and also the digital root of 39.

## Input

The input file contains several test cases. Each test case contains a line with a single positive integer number $N$. The end of the input will be in a case where $N = 0$, this case should not be processed.

- $1 \leq N < 2^{64}$

## Output

For each test case in the input, print a single line with the digital root of $N$.

## Example

| Input | Output |
|---|---|
| 24<br>39<br>0 | 6<br>3 |