CCCHK '08 J2 - Lucky Number

Time limit: 1.0s **Memory limit:** 64M

In ancient Europe, people believed that their luck was dependent on a number. By summing up the digits of their birthday, they got a sum. By repeatedly adding the digits of the sum until a single digit number remains. This resultant number was called the "single digit representation". And the digit reflected their luck in their whole life.

In this question, a birthday will be given by a non-negative integer x ($\leq 10\,000$ digits). Your program has to compute the single digit representation of the given number. Example:

$1 \rightarrow 1$
$10 \rightarrow 1 + 0 = 1$
$19 \rightarrow 1 + 9 = 10 \rightarrow 1$
$999 \rightarrow 9 + 9 + 9 = 27 \rightarrow 9$

Input Specification

The first input is an integer specifying the number of test cases. Then each input number appears on a line by itself.

Output Specification

For each test case, output the single digit representation of it.

Sample Input

```
4
1
10
19
999
```

Sample Output

```
1
1
1
9
```