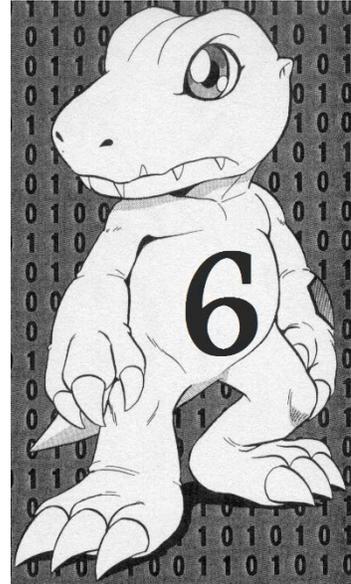


A: Digi-Eater

Sasuke is a Digimon Tamer and owner of one of the most curious Digimons in all Digiworld: The Digi-eater. A Digi-eater is a monster that can be fed with numbers every once in a while. When a Digi-eater eats a number, it evolves multiple times. This particular digi-monster is unique because during evolution, the Digi-eater adds the digits of the number in his belly and eats the sum, evolving again and again until the number in his belly has only one digit. This final number is engraved on his digital belly.

For example, Sasuke fed his Digi-eater with the number 987 and saw that it evolved 2 times. Adding all the digits, $9 + 8 + 7$, the Digi-eater changed the number to 24. It then ate this number, changed the number to $2 + 4 = 6$, leaving his digi-eater 2 levels up in evolution and with a funny number 6 printed on his belly.

Help Sasuke figure out the number that will be printed on his Digi-eater's belly before he feeds it again.



Input

The first line will have only one number T ($1 \leq T \leq 100$), the number of test cases. Then T lines follow, each containing one integer N ($1 \leq N \leq 1,000,000$).

Output

For each test case, print the resulting number on its own line.

Sample Input

```
5
10
33
987
10000
123123
```

Sample Output

```
1
6
6
1
3
```