

Project Euler #20: Factorial digit sum



This problem is a programming version of [Problem 20](#) from [projecteuler.net](#)

$$n! \text{ means } n \times (n - 1) \times \cdots \times 3 \times 2 \times 1$$

For example, $10! = 10 \times 9 \times \cdots \times 3 \times 2 \times 1 = 3628800$,
and the sum of the digits in the number $10!$ is $3 + 6 + 2 + 8 + 8 + 0 + 0 = 27$.

Find the sum of the digits in the number $N!$

Input Format

The first line contains an integer T , i.e., number of test cases.
Next T lines will contain an integer N .

Constraints

- $1 \leq T \leq 100$
- $0 \leq N \leq 1000$

Output Format

Print the values corresponding to each test case.

Sample Input

```
2
3
6
```

Sample Output

```
6
9
```

Explanation

- $3!$ is 6, sum of digit is 6.
- $6!$ is 720, sum of digits is 9.