

# Project Euler #16:

## Power digit sum

This problem is a programming version of [Problem 16](#) from [projecteuler.net](#)

$2^9 = 512$  and the sum of its digits is  $5 + 1 + 2 = 8$ .

What is the sum of the digits of the number  $2^N$  ?

### Input Format

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

### Constraints

- $1 \leq T \leq 100$
- $1 \leq N \leq 10^4$

### Output Format

Print the values corresponding to each test case.

### Sample Input

```
3
3
4
7
```

### Sample Output

```
8
7
11
```

### Explanation

- $2^3 \Rightarrow 8$ , sum of digits is 8.
- $2^4 \Rightarrow 16$ , sum of digits is 7.
- $2^7 \Rightarrow 128$ , sum of digits is 11.