

# File IDs

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ALL



Financial files are stored in a secure system. The system does not store the files sequentially with *fileID* 1, 2, 3, 4,... and so on. Instead, the system stores the files with *fileID* in the following sequence.

1

- The first *fileID* is 1
- The first *fileID* contained *one 1*, so the second *fileID* is 11.
- The second *fileID* contains *two 1s*, so the third number is 21
- The previous *fileID* contains *one 2* and *one 1*, so the fourth *fileID* is 1211
- The next *fileID* is 111221, that is, as *one 1*, *one 2*, *two 1's* describes the previous *fileID*.
- *And so on...*

2

3

This sequence can continue infinitely. Given an integer, *position[i]*, determine the sum of the digits of the *fileID* at the position *position[i]*. For example, *FileID* at position 4 is 1211. The sum of those digits is  $1 + 2 + 1 + 1 = 5$ .

Each test case will contain *n* queries passed as an integer array. Return an array of integers that contains answers for the queried integers. The  $i^{th}$  answer should correspond to the  $i^{th}$  query.

### Example

*position* = [1, 2, 3]

In this example,

- For *position*[0] = 1, *FileID*<sub>1</sub> = 1. Sum of digits of *FileID*<sub>1</sub> = 1.
- For *position*[1] = 2, *FileID*<sub>2</sub> = 11. Sum of digits of *FileID*<sub>2</sub> = 1 + 1 = 2.
- For *position*[2] = 3, *FileID*<sub>3</sub> = 21. Sum of digits of *FileID*<sub>3</sub> = 2 + 1 = 3.

### Function Description

Complete the function *getFileIDsDigitSum* in the editor below.

*getFileIDsDigitSum* has the following parameter(s):

*int position[n]*: the sequence positions to query

Returns:

*int[n]*: each  $i^{th}$  value is the sum of digits of *FileID* at *position*[*i*].

### Constraints

- $1 \leq n \leq 1000$
- $1 \leq position[i] \leq 54$

#### ► Input Format Format for Custom Testing

#### ► Sample Case 0

[Info](#)

Python 3



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