

# 10706 Number Sequence

A single positive integer  $i$  is given. Write a program to find the digit located in the position  $i$  in the sequence of number groups  $S_1S_2 \dots S_k$ . Each group  $S_k$  consists of a sequence of positive integer numbers ranging from 1 to  $k$ , written one after another. For example, the first 80 digits of the sequence are as follows:

11212312341234512345612345671234567812345678912345678910123456789101112345678910

### Input

The first line of the input file contains a single integer  $t$  ( $1 \leq t \leq 25$ ), the number of test cases, followed by one line for each test case. The line for a test case contains the single integer  $i$  ( $1 \leq i \leq 2147483647$ )

### Output

There should be one output line per test case containing the digit located in the position  $i$ .

### Sample Input

2  
8  
3

### Sample Output

2  
2