

Problem B - Moliu Task

[Vocabulary] **moliu** (adj) - (*Cantonese*) Something is **moliu** if it is senseless, stupid, boring etc.

Amy, Chris and Mary are three little children. They have no school today. So they ask their brother, Bart, to give them some games. "Let's play Tic Tac Toe!", "Let's play easy Sudoku!", "Let's play pouring water!", "Let's play coin change!"

"Man... you call this a 'game'? Let me give an interesting question for them~" Kan, Bart's friend, said. "Hey kids, let me ask you a question. If I write down the numbers from 1 to 388 one after another, what will be the 1000-th digit? If anyone can answer this question, I will pick you all to Ryen's pizza house!" The kids start thinking that if they write down all the numbers like 1234567891011121314 it will take many hours for them. Moreover, the answer will possibly be incorrect because they can easily lose track of the numbers written.

"You are so moliu!" Bart said. "Yes, I am. Oh, can you answer this question using a program? Let the computer do the moliu task. I will buy you and kids a Cheese Full Wa Pizza set after you have finished this program." Kan reply.

Can you also write a program to solve this question?

Input

The input will contain one or more line each containing a positive integer **N** ($0 < N < 100000000$). Total line of the input file will not exceed 11000.

Output

For every **N**, you should **calculate** the **N**-th digit of the sequence 123456789101112 and print it on a line itself with the case number in the front. (Format: "Case [no. of case] : [N-th digit]" , please refer to sample output below)

Sample Input

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3
9
10
11
10000
50000
```

Sample Output

Case 1 : 3
Case 2 : 9
Case 3 : 1
Case 4 : 0
Case 5 : 7
Case 6 : 1

Adapted from UVa 10427

Hints:

- Actually the task is not “moliu”.
- DON'T ever try to generate the sequence out.
TLE and/or MLE will be received before the sequence is generated.
- Within the range of N, the last number to be appended to the sequence is 13888888.
- Try to observe the nature of this sequence.

“The meaning of Ryen is ‘king’”. – From
<http://www.thinkbabynames.com/meaning/1/Ryen>