Given a non-negative integer num, repeatedly add all its digits until the result has only one digit.

For example:

Given num = 38, the process is like: 3 + 8 = 11, 1 + 1 = 2. Since 2 has only one digit, return it.

**Follow up:**  
Could you do it without any loop/recursion in O(1) runtime?

递归：

**public** **class** Solution {

**public** **int** addDigits(**int** num) {

num = *addSum*(num) ;

**if**(num<10) **return** num;

**else**

**return** addDigits(num);

}

**private** **static** **int** addSum( **int** num){

**if**(num<10) **return** num;

**else** **return** num%10+*addSum*(num/10);

}

**public** **static** **void** main(String args[]) {

**int** a=1235;

System.***out***.println(**new** Solution().addDigits(a));

}

}

非递归：

**public** **class** Solution {

**public** **int** addDigits(**int** num) {

return (num-1)%9+1;

}

}