class Solution {

public:

int addDigits(int num) {

//return solution1(num);

//return solution2(num);

return solution3(num);

}

private:

int solution1(int num){

return (num - 1) % 9 + 1;

}

int solution2(int num){

return num - 9 \* ((num - 1)/9);

}

int solution3(int num){

if(num < 10) return num;

return solution3(num / 10 + num % 10);

}

};