**Problem Statement: Let’s define a Beautiful Function F(x) in such a way: Add 1 to the value of x, if the result of addition contains any trailing zeros then remove them all.  
  
Example:  
F(11) = 12  
F(19) = 2 (20 –> 2)  
F(99) = 1(100 –> 10 –> 1)  
  
Let’s define a number to be reachable from x , if we can apply Beautiful Function some number of times (possibly zero) to x and get that number as result  
Ex. 102 can be reachable from 1099 as F(F(1099)) = F(101) = 102  
You are given a number N . Calculate how many numbers are reachable from N.**

**Input Format:  
The first line contains an integer N. denoting the given number.**

**Constrains: 1 <= N <= 10^9**

|  |  |  |
| --- | --- | --- |
| **Sample Input** | **Sample output** | **Explanation** |
| 1 | 9 | 1,2,3,4,5,6,7,8,9 are reachable from 1. |

#### ****Let’s Understand the problem first:**** In this problem you will be given a number you have to find how many numbers can be reachable from the given no using the Beautiful function. The beautiful function is also very simple you just have to add 1 with the given input number  and have to check whether it has any trailing zero or not if it has trailing zeros we have to remove those zeros to get the output number of the function.

#### Write a C program to print the following pattern(till n rows, where n is taken as input).

#### 1       0  1     0 1  0  1  0  1  0 1 0 1  0  1

#### Write a program in C to find the roots of a quadratic equation. Your program should print the imaginary roots in the form a+ib.

#### Write a program to compute

#### e= 1+ 1/1! + 1/2! + 1/3! ….1/n! with accuracy of 0.001%.

#### Write a program which take an integer as input and print the digits of an integer in words, after storing in a character array. [ if input : 2403 , output : Two Four Zero Three]

#### The equation x2+y2=r2 represent a circle which centers at origin and radius is r. Write a program that read r from the keyboard and print the number of points with integer co-ordinate that lie on the circumference of the circle.

#### Write a program to convert decimal numbers in the range 1 to 9999 in to Roman numerals where , I=1,V=5, X=10, L=50,C=100,D=500,M=1000 and assuming L=5000.