

Create a project called Daily15. Add a C source file to the project named daily15.c.

The Fibonacci number F_n are defined as follows:

$$F_0 = 1, F_1 = 1,$$

and

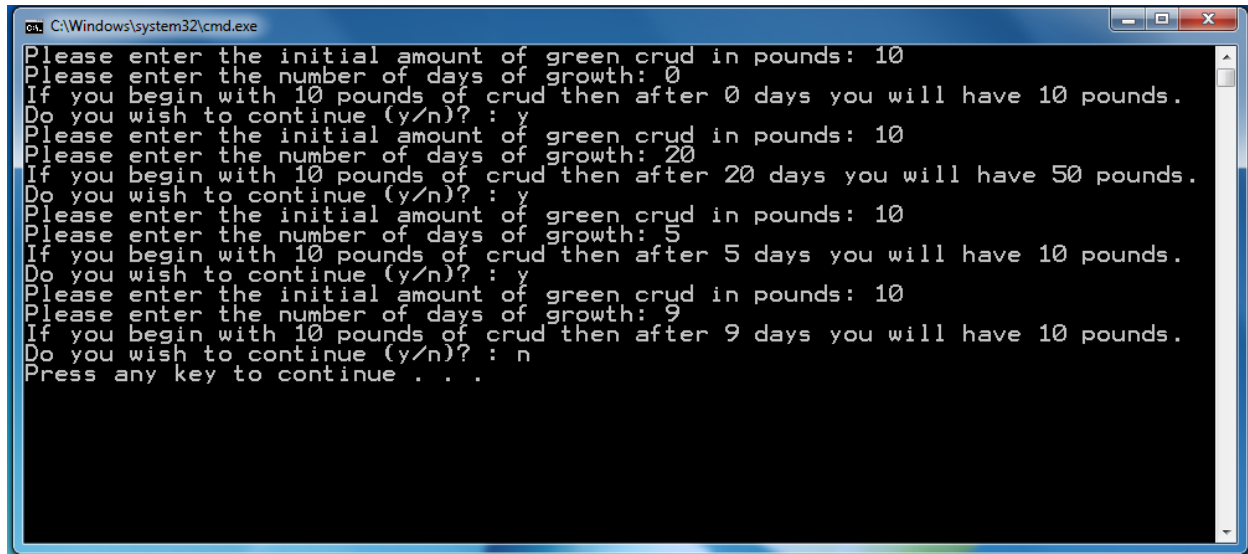
$$F_n = F_{n-1} + F_{n-2} \text{ for } n \geq 2$$

In other words, each number is the sum of the two previous numbers in the sequence. Thus, the first several Fibonacci numbers are 1, 1, 2, 3, 5, and 8. Interestingly, certain population growth rates are characterized by the Fibonacci numbers. If a population has no deaths, then the series gives the size of the population after each time period.

Assume that a population of green crud grows at a rate described by the Fibonacci numbers and has a time period of 5 days. Hence, if a green crud population starts out as 10 pounds of crud, then after 5 days, there is still 10 pounds of crud; in 10 days, there is 20 pounds of crud; in 15 days, 30 pounds of crud; in 20 days, 50 pounds of crud, and so on.

Write a program that takes both the initial size of a green crud population (in pounds) and some number of days as input, and uses a non-recursive function to compute from that information the size of the population (in pounds) after the specified number of days. Assume that the population size is the same for four days and then increases every fifth day. The program must allow the user to repeat this calculation as long as desired. Please note that zero is a valid number of days for the crud to grow in which case it would remain at its initial value.

Your program output should look something like the following:



```
C:\Windows\system32\cmd.exe
Please enter the initial amount of green crud in pounds: 10
Please enter the number of days of growth: 0
If you begin with 10 pounds of crud then after 0 days you will have 10 pounds.
Do you wish to continue (y/n)? : y
Please enter the initial amount of green crud in pounds: 10
Please enter the number of days of growth: 20
If you begin with 10 pounds of crud then after 20 days you will have 50 pounds.
Do you wish to continue (y/n)? : y
Please enter the initial amount of green crud in pounds: 10
Please enter the number of days of growth: 5
If you begin with 10 pounds of crud then after 5 days you will have 10 pounds.
Do you wish to continue (y/n)? : y
Please enter the initial amount of green crud in pounds: 10
Please enter the number of days of growth: 9
If you begin with 10 pounds of crud then after 9 days you will have 10 pounds.
Do you wish to continue (y/n)? : n
Press any key to continue . . .
```

At the top of your program you should have a comment section that follows the below format:

```
/******
  Author: <insert your name>
  Date: 10/15/2014

  Purpose: <Insert a short description of what
            your program does here.>
  Time Spent: <Insert how much time you spent
              on the assignment here>
*****/
```