Source File: `lab17.asm`
Input: Standard Input
Output: Standard Output
Value: 2

Write a program that uses a loop to calculate the first 12 terms of a Fibonacci number sequence. There are an infinite number of Fibonacci sequences. A Fibonacci sequence is defined as follows: Let any two integers be the first two terms of the sequence. The third term in the sequence is the sum of the first two terms, the fourth term is the sum of the second and third terms, and so on. Probably the most famous Fibonacci sequence starts with 0 and 1. The resulting sequence is

$$0, 1, 1, 2, 3, 5, 8, 13, 21, \ldots$$

Reserve doublewords in the `.bss` section to represent the terms in a Fibonacci sequence. Accept values for the first two terms through standard input. Use a loop to generate the next terms in the sequence. Use register dumps to show the terms of the seqence, with each term being in the `eax` register. Add an identification section as shown below to the top of your source file.

```
; Your name
; CS 3304
; Lab 17
```

A sample execution sequence is shown in Figure 1. To use the `Makefile` as distributed in class, add a target of `lab17` to `targetsAsmLanguage`.

```
newuser@csunix ~/3304/17> cp /usr/local/3304/src/Makefile .
newuser@csunix ~/3304/17> touch lab17.asm
newuser@csunix ~/3304/17> make
nasm -f elf32  -l lab17.lst -o lab17.o lab17.asm -I/usr/local/3304/include/ -I.
ld -m elf_i386 --dynamic-linker /lib/ld-linux.so.2 -o lab17 lab17.o \
/usr/local/3304/src/Along32.o -lc
newuser@csunix ~/3304/17> ./lab17
0
1

  EAX=00000000  EBX=F77C8FBC  ECX=F77C2BBF  EDX=F77B6480
  ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
  EIP=080481CE  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0


  EAX=00000001  EBX=F77C8FBC  ECX=0000000B  EDX=F77B6480
  ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
  EIP=080481DD  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0


  EAX=00000001  EBX=F77C8FBC  ECX=0000000A  EDX=F77B6480
  ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
  EIP=080481DD  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0


  EAX=00000002  EBX=F77C8FBC  ECX=00000009  EDX=F77B6480
  ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
  EIP=080481DD  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0


```

Figure 1. Commands to Assemble, Link, & Run Lab 17 (Part 1 of 3)

```
   EAX=00000003  EBX=F77C8FBC  ECX=00000008  EDX=F77B6480
   ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
   EIP=080481DD  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0


   EAX=00000005  EBX=F77C8FBC  ECX=00000007  EDX=F77B6480
   ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
   EIP=080481DD  EFL=00000206  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=1


   EAX=00000008  EBX=F77C8FBC  ECX=00000006  EDX=F77B6480
   ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
   EIP=080481DD  EFL=00000206  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=1


   EAX=0000000D  EBX=F77C8FBC  ECX=00000005  EDX=F77B6480
   ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
   EIP=080481DD  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0


   EAX=00000015  EBX=F77C8FBC  ECX=00000004  EDX=F77B6480
   ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
   EIP=080481DD  EFL=00000212  CF=0  SF=0  ZF=0  OF=0  AF=1  PF=0


   EAX=00000022  EBX=F77C8FBC  ECX=00000003  EDX=F77B6480
   ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
   EIP=080481DD  EFL=00000212  CF=0  SF=0  ZF=0  OF=0  AF=1  PF=0


   EAX=00000037  EBX=F77C8FBC  ECX=00000002  EDX=F77B6480
   ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
   EIP=080481DD  EFL=00000206  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=1


   EAX=00000059  EBX=F77C8FBC  ECX=00000001  EDX=F77B6480
   ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
   EIP=080481DD  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0

newuser@csunix ~/3304/17> ./lab17
0
-1

   EAX=00000000  EBX=F7797FBC  ECX=F7791BBF  EDX=F7785480
   ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
   EIP=080481CE  EFL=00000286  CF=0  SF=1  ZF=0  OF=0  AF=0  PF=1


   EAX=FFFFFFFF  EBX=F7797FBC  ECX=0000000B  EDX=F7785480
   ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
   EIP=080481DD  EFL=00000286  CF=0  SF=1  ZF=0  OF=0  AF=0  PF=1


```

Figure 1. Commands to Assemble, Link, & Run Lab 17 (Part 2 of 3)

```
   EAX=FFFFFFFF  EBX=F7797FBC  ECX=0000000A  EDX=F7785480
   ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
   EIP=080481DD  EFL=00000286  CF=0  SF=1  ZF=0  OF=0  AF=0  PF=1


   EAX=FFFFFFFE  EBX=F7797FBC  ECX=00000009  EDX=F7785480
   ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
   EIP=080481DD  EFL=00000297  CF=1  SF=1  ZF=0  OF=0  AF=1  PF=1


   EAX=FFFFFFFD  EBX=F7797FBC  ECX=00000008  EDX=F7785480
   ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
   EIP=080481DD  EFL=00000293  CF=1  SF=1  ZF=0  OF=0  AF=1  PF=0


   EAX=FFFFFFFB  EBX=F7797FBC  ECX=00000007  EDX=F7785480
   ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
   EIP=080481DD  EFL=00000293  CF=1  SF=1  ZF=0  OF=0  AF=1  PF=0


   EAX=FFFFFFF8  EBX=F7797FBC  ECX=00000006  EDX=F7785480
   ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
   EIP=080481DD  EFL=00000293  CF=1  SF=1  ZF=0  OF=0  AF=1  PF=0


   EAX=FFFFFFF3  EBX=F7797FBC  ECX=00000005  EDX=F7785480
   ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
   EIP=080481DD  EFL=00000293  CF=1  SF=1  ZF=0  OF=0  AF=1  PF=0


   EAX=FFFFFFEB  EBX=F7797FBC  ECX=00000004  EDX=F7785480
   ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
   EIP=080481DD  EFL=00000287  CF=1  SF=1  ZF=0  OF=0  AF=0  PF=1


   EAX=FFFFFFDE  EBX=F7797FBC  ECX=00000003  EDX=F7785480
   ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
   EIP=080481DD  EFL=00000287  CF=1  SF=1  ZF=0  OF=0  AF=0  PF=1


   EAX=FFFFFFC9  EBX=F7797FBC  ECX=00000002  EDX=F7785480
   ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
   EIP=080481DD  EFL=00000297  CF=1  SF=1  ZF=0  OF=0  AF=1  PF=1


   EAX=FFFFFFA7  EBX=F7797FBC  ECX=00000001  EDX=F7785480
   ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
   EIP=080481DD  EFL=00000297  CF=1  SF=1  ZF=0  OF=0  AF=1  PF=1

newuser@csunix ~/3304/17>
```

Figure 1. Commands to Assemble, Link, & Run Lab 17 (Part 3 of 3)