**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`.

```
1   newuser@csunix ~/3304/17> make
2   nasm -f elf32  -l lab17.lst -o lab17.o lab17.asm -I/usr/local/3304/include/ -I.
3   ld -m elf_i386 --dynamic-linker /lib/ld-linux.so.2 -o lab17 lab17.o \
4   /usr/local/3304/src/Along32.o -lc
5   newuser@csunix ~/3304/17> ./lab17
6   0
7   1
8
9     EAX=00000000  EBX=F77C8FBC  ECX=F77C2BBF  EDX=F77B6480
10    ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
11    EIP=080481CE  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0
12
13
14    EAX=00000001  EBX=F77C8FBC  ECX=0000000B  EDX=F77B6480
15    ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
16    EIP=080481DD  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0
17
18
19    EAX=00000001  EBX=F77C8FBC  ECX=0000000A  EDX=F77B6480
20    ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
21    EIP=080481DD  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0
22
23
24    EAX=00000002  EBX=F77C8FBC  ECX=00000009  EDX=F77B6480
25    ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
26    EIP=080481DD  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0
27
28
```

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

```
29    EAX=00000003  EBX=F77C8FBC  ECX=00000008  EDX=F77B6480
30    ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
31    EIP=080481DD  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0
32
33
34    EAX=00000005  EBX=F77C8FBC  ECX=00000007  EDX=F77B6480
35    ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
36    EIP=080481DD  EFL=00000206  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=1
37
38
39    EAX=00000008  EBX=F77C8FBC  ECX=00000006  EDX=F77B6480
40    ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
41    EIP=080481DD  EFL=00000206  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=1
42
43
44    EAX=0000000D  EBX=F77C8FBC  ECX=00000005  EDX=F77B6480
45    ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
46    EIP=080481DD  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0
47
48
49    EAX=00000015  EBX=F77C8FBC  ECX=00000004  EDX=F77B6480
50    ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
51    EIP=080481DD  EFL=00000212  CF=0  SF=0  ZF=0  OF=0  AF=1  PF=0
52
53
54    EAX=00000022  EBX=F77C8FBC  ECX=00000003  EDX=F77B6480
55    ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
56    EIP=080481DD  EFL=00000212  CF=0  SF=0  ZF=0  OF=0  AF=1  PF=0
57
58
59    EAX=00000037  EBX=F77C8FBC  ECX=00000002  EDX=F77B6480
60    ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
61    EIP=080481DD  EFL=00000206  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=1
62
63
64    EAX=00000059  EBX=F77C8FBC  ECX=00000001  EDX=F77B6480
65    ESI=FFF8F1FC  EDI=080481B0  EBP=00000000  ESP=FFF8F1F0
66    EIP=080481DD  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0
67
68  newuser@csunix ~/3304/17> ./lab17
69  0
70  -1
71
72    EAX=00000000  EBX=F7797FBC  ECX=F7791BBF  EDX=F7785480
73    ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
74    EIP=080481CE  EFL=00000286  CF=0  SF=1  ZF=0  OF=0  AF=0  PF=1
75
76
77    EAX=FFFFFFFF  EBX=F7797FBC  ECX=0000000B  EDX=F7785480
78    ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
79    EIP=080481DD  EFL=00000286  CF=0  SF=1  ZF=0  OF=0  AF=0  PF=1
80
81
```

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

```
82    EAX=FFFFFFFF  EBX=F7797FBC  ECX=0000000A  EDX=F7785480
83    ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
84    EIP=080481DD  EFL=00000286  CF=0  SF=1  ZF=0  OF=0  AF=0  PF=1
85
86
87    EAX=FFFFFFFE  EBX=F7797FBC  ECX=00000009  EDX=F7785480
88    ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
89    EIP=080481DD  EFL=00000297  CF=1  SF=1  ZF=0  OF=0  AF=1  PF=1
90
91
92    EAX=FFFFFFFD  EBX=F7797FBC  ECX=00000008  EDX=F7785480
93    ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
94    EIP=080481DD  EFL=00000293  CF=1  SF=1  ZF=0  OF=0  AF=1  PF=0
95
96
97    EAX=FFFFFFFB  EBX=F7797FBC  ECX=00000007  EDX=F7785480
98    ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
99    EIP=080481DD  EFL=00000293  CF=1  SF=1  ZF=0  OF=0  AF=1  PF=0
100
101
102   EAX=FFFFFFF8  EBX=F7797FBC  ECX=00000006  EDX=F7785480
103   ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
104   EIP=080481DD  EFL=00000293  CF=1  SF=1  ZF=0  OF=0  AF=1  PF=0
105
106
107   EAX=FFFFFFF3  EBX=F7797FBC  ECX=00000005  EDX=F7785480
108   ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
109   EIP=080481DD  EFL=00000293  CF=1  SF=1  ZF=0  OF=0  AF=1  PF=0
110
111
112   EAX=FFFFFFEB  EBX=F7797FBC  ECX=00000004  EDX=F7785480
113   ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
114   EIP=080481DD  EFL=00000287  CF=1  SF=1  ZF=0  OF=0  AF=0  PF=1
115
116
117   EAX=FFFFFFDE  EBX=F7797FBC  ECX=00000003  EDX=F7785480
118   ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
119   EIP=080481DD  EFL=00000287  CF=1  SF=1  ZF=0  OF=0  AF=0  PF=1
120
121
122   EAX=FFFFFFC9  EBX=F7797FBC  ECX=00000002  EDX=F7785480
123   ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
124   EIP=080481DD  EFL=00000297  CF=1  SF=1  ZF=0  OF=0  AF=1  PF=1
125
126
127   EAX=FFFFFFA7  EBX=F7797FBC  ECX=00000001  EDX=F7785480
128   ESI=FFEC79FC  EDI=080481B0  EBP=00000000  ESP=FFEC79F0
129   EIP=080481DD  EFL=00000297  CF=1  SF=1  ZF=0  OF=0  AF=1  PF=1
130
131  newuser@csunix ~/3304/17>
```

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