Source File: `lab12.asm`
Input: Standard Input
Output: Standard Output
Value: 1

Modify Lab 11 to use unitialized variables for the addends. Reserve four doublewords in the `.bss` section to represent the addends. Use only the `eax` register. Show the contents of the registers after each step in the calculation. Your program should adhere to ordinary rules of algebraic precedence and associativity. Add an identification section as shown below to the top of your source file.

```
; Your name
; CS 3304
; Lab 12
```

A sample execution sequence is shown in Figure 1. To use the `Makefile` as distributed in class, add a target of `lab12` to `targetsAsmLanguage`.

```
1  newuser@csunix ~/3304/12> cp /usr/local/3304/src/Makefile .
2  newuser@csunix ~/3304/12> touch lab12.asm
3  newuser@csunix ~/3304/12> make
4  nasm -f elf32  -l lab12.lst -o lab12.o lab12.asm -I/usr/local/3304/include/ -I.
5  ld -m elf_i386 --dynamic-linker /lib/ld-linux.so.2 -o lab12 lab12.o \
6  /usr/local/3304/src/Along32.o -lc
7  newuser@csunix ~/3304/12> # Execute ./lab12 with interactive input
8  newuser@csunix ~/3304/12> ./lab12
9  1
10 -2
11 3
12 -4
13
14   EAX=FFFFFFFC  EBX=F7792FBC  ECX=F778CBBF  EDX=F7780480
15   ESI=FF98CE9C  EDI=080481B0  EBP=00000000  ESP=FF98CE90
16   EIP=080481DD  EFL=00000286  CF=0  SF=1  ZF=0  OF=0  AF=0  PF=1
17
18
19   EAX=00000001  EBX=F7792FBC  ECX=F778CBBF  EDX=F7780480
20   ESI=FF98CE9C  EDI=080481B0  EBP=00000000  ESP=FF98CE90
21   EIP=080481E7  EFL=00000286  CF=0  SF=1  ZF=0  OF=0  AF=0  PF=1
22
23
24   EAX=FFFFFFFF  EBX=F7792FBC  ECX=F778CBBF  EDX=F7780480
25   ESI=FF98CE9C  EDI=080481B0  EBP=00000000  ESP=FF98CE90
26   EIP=080481F2  EFL=00000286  CF=0  SF=1  ZF=0  OF=0  AF=0  PF=1
27
28
29   EAX=00000002  EBX=F7792FBC  ECX=F778CBBF  EDX=F7780480
30   ESI=FF98CE9C  EDI=080481B0  EBP=00000000  ESP=FF98CE90
31   EIP=080481FD  EFL=00000213  CF=1  SF=0  ZF=0  OF=0  AF=1  PF=0
32
33
34   EAX=FFFFFFFE  EBX=F7792FBC  ECX=F778CBBF  EDX=F7780480
35   ESI=FF98CE9C  EDI=080481B0  EBP=00000000  ESP=FF98CE90
36   EIP=08048208  EFL=00000282  CF=0  SF=1  ZF=0  OF=0  AF=0  PF=0
37
```

Figure 1. Commands to Assemble, Link, & Run Lab 12 (Part 1 of 2)

```
newuser@csunix ~/3304/12> # Create an input file 01.dat
newuser@csunix ~/3304/12> # Enter the data items 1, -2, 3, -4, one item per line
newuser@csunix ~/3304/12> cat 01.dat
1
-2
3
-4
newuser@csunix ~/3304/12> # Copy irvine_test.sh to your 3304 folder
newuser@csunix ~/3304/12> cp /usr/local/3304/src/irvine_test.sh ../
newuser@csunix ~/3304/12> # Execute ./lab12 using ../irvine_test.sh
newuser@csunix ~/3304/12> ../irvine_test.sh lab12 01.dat

  EAX=FFFFFFFC  EBX=F77B9FBC  ECX=F77B3BBF  EDX=F77A7480
  ESI=FFA65ADC  EDI=080481B0  EBP=00000000  ESP=FFA65AD0
  EIP=080481DD  EFL=00000286  CF=0  SF=1  ZF=0  OF=0  AF=0  PF=1


  EAX=00000001  EBX=F77B9FBC  ECX=F77B3BBF  EDX=F77A7480
  ESI=FFA65ADC  EDI=080481B0  EBP=00000000  ESP=FFA65AD0
  EIP=080481E7  EFL=00000286  CF=0  SF=1  ZF=0  OF=0  AF=0  PF=1


  EAX=FFFFFFFF  EBX=F77B9FBC  ECX=F77B3BBF  EDX=F77A7480
  ESI=FFA65ADC  EDI=080481B0  EBP=00000000  ESP=FFA65AD0
  EIP=080481F2  EFL=00000286  CF=0  SF=1  ZF=0  OF=0  AF=0  PF=1


  EAX=00000002  EBX=F77B9FBC  ECX=F77B3BBF  EDX=F77A7480
  ESI=FFA65ADC  EDI=080481B0  EBP=00000000  ESP=FFA65AD0
  EIP=080481FD  EFL=00000213  CF=1  SF=0  ZF=0  OF=0  AF=1  PF=0


  EAX=FFFFFFFE  EBX=F77B9FBC  ECX=F77B3BBF  EDX=F77A7480
  ESI=FFA65ADC  EDI=080481B0  EBP=00000000  ESP=FFA65AD0
  EIP=08048208  EFL=00000282  CF=0  SF=1  ZF=0  OF=0  AF=0  PF=0

newuser@csunix ~/3304/12>
```

Figure 1. Commands to Assemble, Link, & Run Lab 12 (Part 2 of 2)