Source File: `lab18.asm`
Input: None
Output: Standard Output
Value: 2

Write a program using the `loop` instruction that copies a string from `source` to `target`, reversing the character order in the process. Use the following initialized variables:

```
1 SECTION .data
2 source  db      "This is the source string",0
3 length  equ     $ - source
4 target  times   length db '#'
```

Use the following code segment as a guide to display the hexadecimal contents of an area of memory. Use this code segment to display the contents of the `source` string and the `target` string twice—once before the loop and once after the loop.

```
1 mov     esi, myArray    ; esi = starting offset
2 mov     ecx, length     ; ecx = # of units
3 mov     ebx, 1          ; ebx = unit size (1=byte, 2=word, 4=dword)
4 call    DumpMem
```

(The `DumpMem` procedure is explained in Section 5.4.)

Add an identification section as shown below to the top of your source file.

```
; Your name
; CS 3304
; Lab 18
```

A sample execution sequence is shown in Figure 1. To use the `Makefile` as distributed in class, add a target of `lab18` to `targetsAsmLanguage`.

```
1  newuser@csunix ~/3304/18> cp /usr/local/3304/src/Makefile .
2  newuser@csunix ~/3304/18> touch lab18.asm
3  newuser@csunix ~/3304/18> make
4  nasm -f elf32  -l lab18.lst -o lab18.o lab18.asm -I/usr/local/3304/include/ -I.
5  ld -m elf_i386 --dynamic-linker /lib/ld-linux.so.2 -o lab18 lab18.o \
6  /usr/local/3304/src/Along32.o -lc
7  newuser@csunix ~/3304/18> ./lab18
8
9  Dump of offset 0804A010
10 -------------------------------
11 54 68 69 73 20 69 73 20 74 68 65 20 73 6F 75 72
12 63 65 20 73 74 72 69 6E 67 00
13
14 Dump of offset 0804A02A
15 -------------------------------
16 23 23 23 23 23 23 23 23 23 23 23 23 23 23 23 23
17 23 23 23 23 23 23 23 23 23 23
18
19 Dump of offset 0804A010
20 -------------------------------
21 54 68 69 73 20 69 73 20 74 68 65 20 73 6F 75 72
22 63 65 20 73 74 72 69 6E 67 00
23
24 Dump of offset 0804A02A
25 -------------------------------
26 00 67 6E 69 72 74 73 20 65 63 72 75 6F 73 20 65
27 68 74 20 73 69 20 73 69 68 54
28 newuser@csunix ~/3304/18>
```

Figure 1. Commands to Assemble, Link, & Run Lab 18