

ML Assignments

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Batch: S4 Comp

Assignment 8:

Code:

```
%macro display 2
    mov rax, 1
    mov rdi, 1
    mov rsi, %1
    mov rdx, %2
    syscall
%endm

global _start
section .data
    arr db 11h, 22h, 33h, 44h, 55h, 66h
    msg db "source array is:"
    msg_len equ $ - msg
    msg1 db "destination array is:"
    msg1_len equ $ - msg1

section .bss
    arr1 resb 6
    arr_ascii resb 14h
    arr1_ascii resb 14h

section .text
_start:
    mov rsi, arr
    mov rdi, arr1
    mov cl, 06
```

up:

mov al, [rsi]

mov [rdi], al

inc rsi

inc rdi

dec cl

jnz up

display msg, msg_len

mov rsi, arr

mov rdi, arr_ascii

call print

display arr_ascii, 14h

display msg1, msg1_len

mov rdi, arr1_ascii

call print

display arr1_ascii, 14h

mov rax, 60

mov rdi, 0

syscall

print:

mov ch, 06

up2:

mov al, [rsi]

mov cl, 02

up1:

rol al, 4

mov bl, al

and al, 0fh

cmp al, 09

ja add37

add al, 30h

jmp dn2

add37:

add al, 37h

dn2:

mov [rdi], al

inc rdi

mov al, bl

dec cl

jnz up1

mov [rdi], byte ','

inc rdi

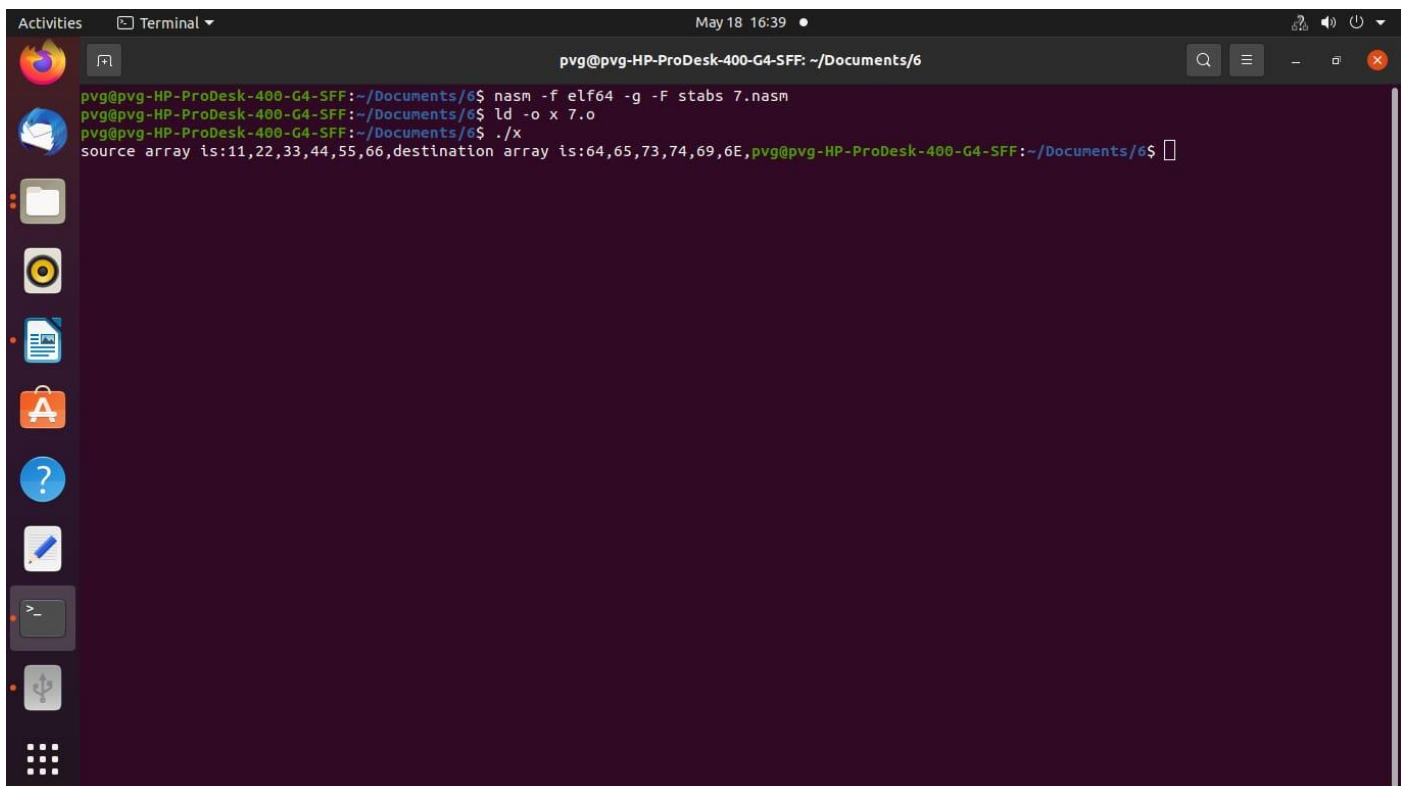
inc rsi

dec ch

jnz up2

ret

output:

A screenshot of a Linux terminal window. The title bar shows 'Activities', 'Terminal', and the date 'May 18 16:39'. The terminal content shows the user 'pvg' at host 'pvg-HP-ProDesk-400-G4-SFF' in the directory '~/Documents/6'. The user runs 'nasm -f elf64 -g -F stabs 7.nasm', then 'ld -o x 7.o', and finally './x'. The output of the program is displayed as 'source array is:11,22,33,44,55,66,destination array is:64,65,73,74,69,6E'.

```
pvg@pvg-HP-ProDesk-400-G4-SFF: ~/Documents/6
pvg@pvg-HP-ProDesk-400-G4-SFF:~/Documents/6$ nasm -f elf64 -g -F stabs 7.nasm
pvg@pvg-HP-ProDesk-400-G4-SFF:~/Documents/6$ ld -o x 7.o
pvg@pvg-HP-ProDesk-400-G4-SFF:~/Documents/6$ ./x
source array is:11,22,33,44,55,66,destination array is:64,65,73,74,69,6E,pvg@pvg-HP-ProDesk-400-G4-SFF:~/Documents/6$
```