

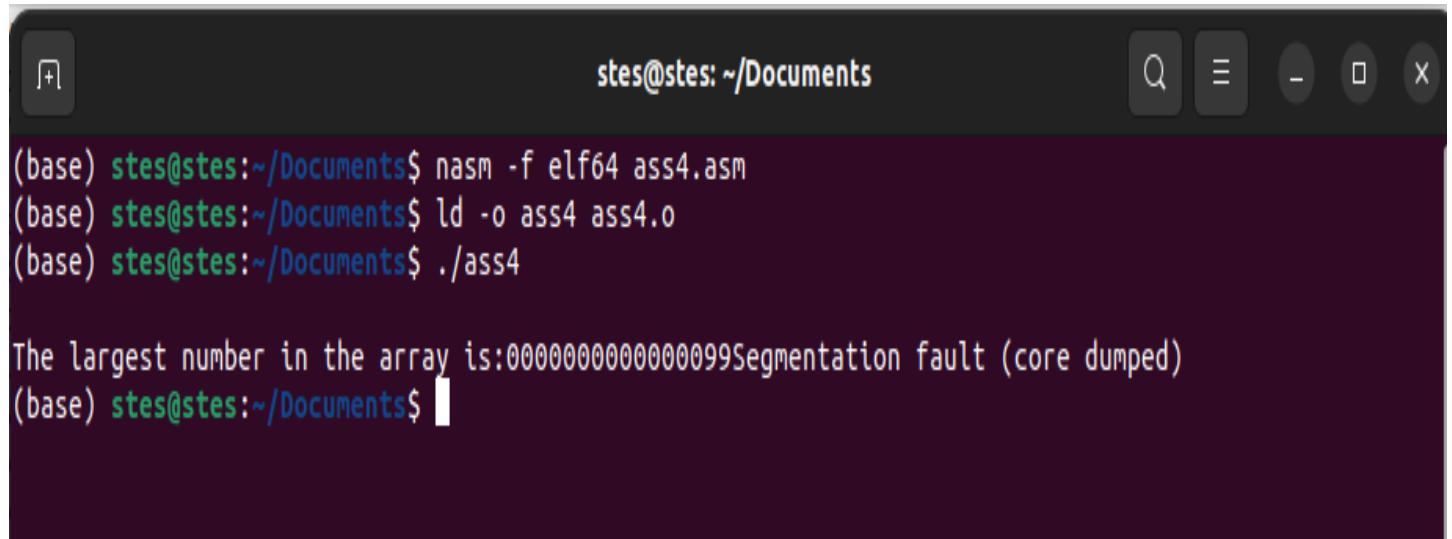
#### **Assignment No : 4**

```
section .data
welmsg db 10, 'The largest number in the array is:', 
len1 equ $-welmsg
array dQ 8h, 99h,77h
arrcnt equ 3
section .bss
dispbuff resb 2
buf resb 16
%macro print 2
mov eax, 4
mov ebx, 1
mov ecx, %1
mov edx, %2
int 0X80
%endmacro

section .text
global _start
_start:
print welmsg, len1
mov esi, array
mov rax, [esi]
mov ecx, arrcnt
up1:
add esi, 8
mov rbx,[esi]
cmp rax, rbx
jnc skip
mov rax,rbx
mov edi, buf
skip:
loop up1
mov rbx, rax
mov edi, buf
mov ecx, 16
disup1:
rol rbx, 4
mov dl, bl
and dl, 0fh
add dl, 30h
cmp dl, 39h
jbe dispSkip1
add dl, 07h
```

```
dispSkip1:  
    mov[edi],dl  
    inc edi  
loop dispUp1  
print buf,16  
ret
```

Output :



The screenshot shows a terminal window with a dark theme. The title bar reads "stes@stes: ~/Documents". The terminal content is as follows:

```
(base) stes@stes:~/Documents$ nasm -f elf64 ass4.asm  
(base) stes@stes:~/Documents$ ld -o ass4 ass4.o  
(base) stes@stes:~/Documents$ ./ass4  
  
The largest number in the array is:0000000000000099Segmentation fault (core dumped)  
(base) stes@stes:~/Documents$ █
```

The terminal shows the compilation of "ass4.asm" to "ass4.o" using nasm and ld, and then the execution of "ass4" which results in a segmentation fault due to a buffer overflow.