

## SC165

**Assignment No- 4** Write an X86/64 ALP to find the largest of given Byte/Word/Dword/64-bit numbers

```
%macro write 2
mov rax,1
mov rdi,1
mov rsi,%1
mov rdx,%2
syscall
%endmacro
```

```
section .data
array db 0Ah,1Ah,88h,98h,97h
```

```
section .bss
result resb 16
cnt resb 1
```

```
section .text
global _start
_start:
mov rsi,array
mov byte[cnt],5
mov al,0
```

```
l1:cmp al,[rsi]
jnc lp
xchg al,[rsi]
```

```
lp: inc rsi
dec byte[cnt]
jnz l1
```

```
call display
```

```
mov rax,60
mov rdi,0
syscall
```

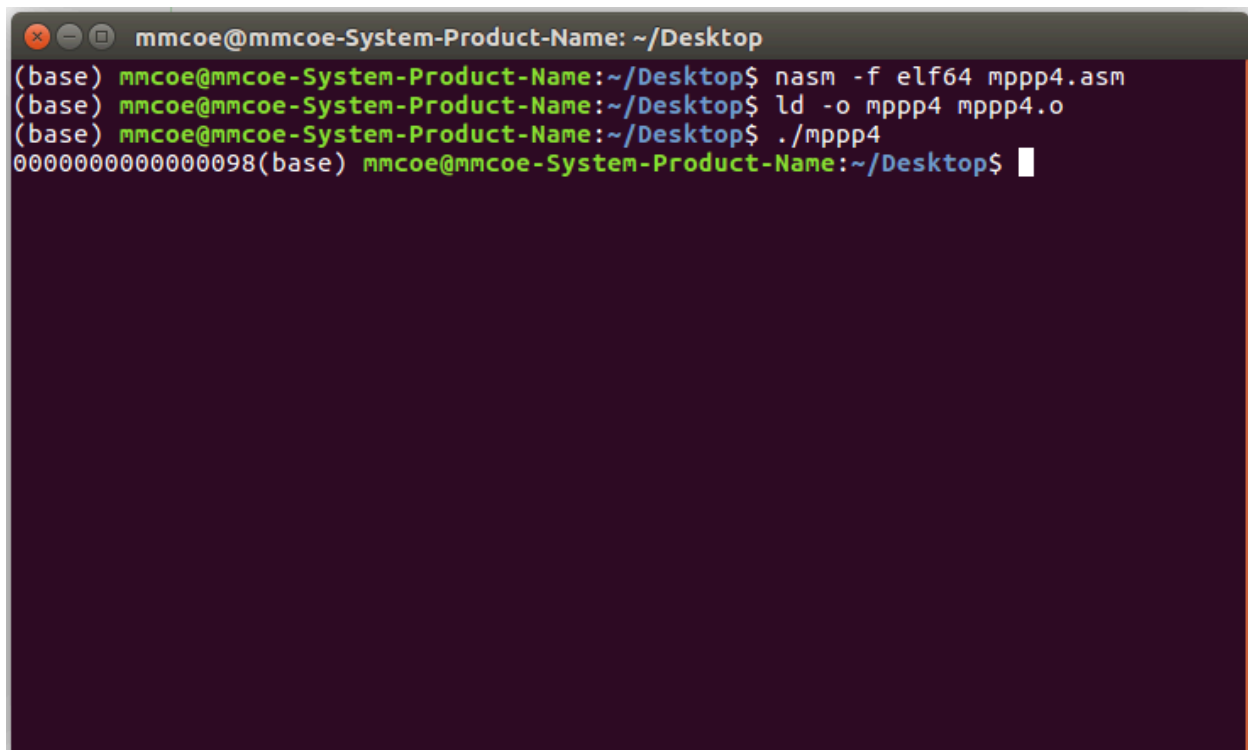
```
display:
```

```
mov rbx, rax
mov cx, 16
mov edi, result
```

```
up:
rol rbx, 4
mov al, bl
and al, 0FH
cmp al, 09H
jg add_37
add al, 30H
jmp skip
```

```
add_37:
add al, 37H
```

```
skip:
mov[edi], al
inc edi
dec cx
jnz up
write result, 16
ret
```

A terminal window with a dark purple background and a grey title bar. The title bar contains window control icons and the text 'mmcoe@mmcoe-System-Product-Name: ~/Desktop'. The terminal shows the following commands and output:

```
(base) mmcoe@mmcoe-System-Product-Name:~/Desktop$ nasm -f elf64 mppp4.asm
(base) mmcoe@mmcoe-System-Product-Name:~/Desktop$ ld -o mppp4 mppp4.o
(base) mmcoe@mmcoe-System-Product-Name:~/Desktop$ ./mppp4
0000000000000098(base) mmcoe@mmcoe-System-Product-Name:~/Desktop$
```