

**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
```

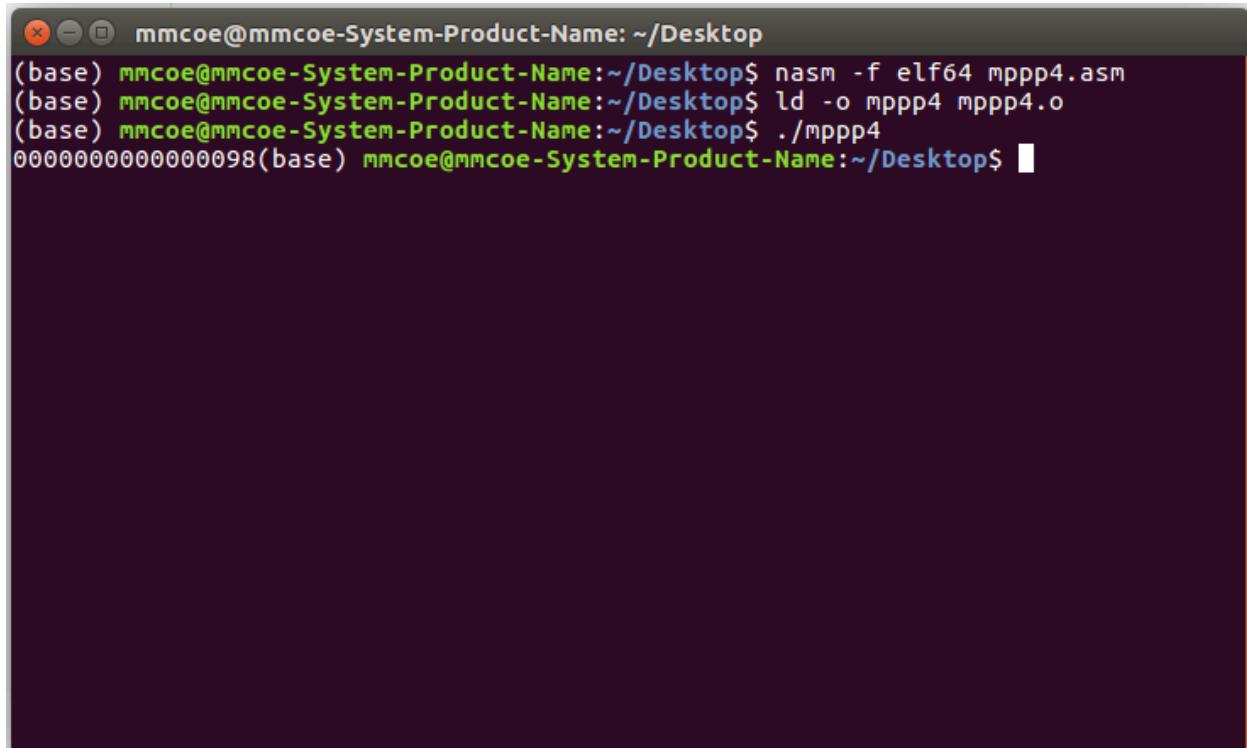
```
display:
```

```
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 titled "mmcoe@mmcoe-System-Product-Name: ~/Desktop". The window contains the following command-line session:

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