

```

1  section .data
2      array db 11h,59h,33h,22h,44h
3      msg1 db 10,"ALP to find the largest number in an array",10
4      msg1_len equ $ - msg1
5
6      msg2 db 10,"The Array contains the elements : ",10
7      msg2_len equ $ - msg2
8
9      msg3 db 10,10, "The Largest number in the array is : ",10
10     msg3_len equ $ - msg3
11 section .bss
12     counter resb 1
13     result resb 4
14
15 %macro write 2
16     mov rax,1
17     mov rdi,1
18     mov rsi,%1
19     mov rdx,%2
20     syscall
21 %endmacro
22 section .text
23     global _start
24
25     _start:
26
27     write msg1 , msg1_len
28     write msg2 , msg2_len
29
30     mov byte[counter],05
31     mov rsi,array
32 next: mov al,[rsi]
33     push rsi
34     call disp
35     pop rsi
36     inc rsi
37     dec byte[counter]
38     jnz next
39
40     write msg3 , msg3_len
41
42     mov byte[counter],05
43     mov rsi, array
44     mov al, 0 ; al is an 8 bit register , al stores max
45 repeat: cmp al,[rsi] ;cmp opr1 , opr2 : opr1 - opr2
46     jg skip
47     mov al,[rsi]
48 skip: inc rsi
49     dec byte[counter]

```

```

50     Jnz repeat
51
52     call disp
53     mov rax,G0
54     mov rdi,1
55     syscall
56
57 disp:
58     mov bl,al ;store number in bl
59     mov rdi, result ;point rdi to result variable
60     mov cx,02 ;load count of rotation in cl
61
62 up1:
63     rol bl,04 ;rotate number left by four bits
64     mov al,bl ;move lower byte in dl
65     and al,0fh ; get only LSB
66     cmp al,09h ;compare with 39h
67     jg add_37 ;if greater than 39h skip add 37
68     add al,30h
69     jmp skip1 ;else add 30
70
71 add_37: add al,37h
72
73 skip1: mov [rdi],al ;store ascii code in result variable
74     inc rdi ;point to next byte
75     dec cx ;decrement the count of digits to display
76     jnz up1 ;if not zero jump to repeat
77
78     write result , 4
79
80     ret
81

```

Output :

```

(kali@shiv)-[~]
$ nasm -f elf64 Mpl3.asm
(kali@shiv)-[~]
$ ld -s -o Mpl3 Mpl3.o
(kali@shiv)-[~]
$ ./Mpl3

ALP to find the largest number in an array

The Array contains the elements :
1159332244

The Largest number in the array is :
59

```