**Practice Questions**

1. Write an assembly program that takes a single character as input from the user. If the character is a lower case letter (a-z), convert it to upper case letter (A-Z). If the character is an upper case letter (A-Z), convert it to lower case letter (a-z).

Sample Input:

Enter a letter from the English Alphabet: A

In small it is: a

Enter a letter from the English Alphabet: a

In Capital it is: A

**Answer:**

.model small

.stack 100h

.data

msg1 db "Enter a letter from english alphabet:$"

msg2 db 0ah,0dh,"In small it is:$"

msg3 db 0ah,0dh,"In capital it is:$"

var1 db ?

.code

main proc

mov ax,@data

mov ds,ax

mov ah,9

lea dx,msg1

int 21h

mov ah,1

int 21h

mov var1,al

cmp var1, cl

jg check\_upper

jl check\_lower

check\_upper:

cmp var1,5Ah

jle small

check\_lower:

cmp var1,61h

jge capital

small:

mov ah,9

lea dx,msg2

int 21h

add var1,20h

mov ah,2

mov dl,var1

int 21h

jmp END

capital:

mov ah,9

lea dx,msg3

int 21h

sub var1,20h

mov ah,2

mov dl,var1

int 21h

jmp END

END:

mov ah,4ch

int 21h

main endp

end main

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1. Write an assembly program that takes a single character as input from the user. If the input is 2 or 4 then it will display “Even”. If the input is 1 or 3 then it will display “ODD”. Otherwise it will display “Unknown”

Sample:

Enter a Number: 1

ODD

Enter a Number: 4

EVEN

Enter a Number: 7

UNKNOWN

**Answer:**

.model small

.stack 100h

.data

msg1 db "Enter a Number: $"

msg2 db 0ah,0dh,"EVEN $"

msg3 db 0ah,0dh,"ODD $"

msg4 db 0ah,0dh,"UNKNOWN $"

var1 db ?

.code

main proc

mov ax,@data

mov ds,ax

mov ah,9

lea dx,msg1

int 21h

mov ah,1

int 21h

mov var1,al

cmp var1, '2'

je even

cmp var1, '4'

je even

cmp var1, '1'

je odd

cmp var1, '3'

je odd

jmp unknown

even:

mov ah,9

lea dx,msg2

int 21h

jmp end

odd:

mov ah,9

lea dx,msg3

int 21h

jmp end

unknown:

mov ah,9

lea dx,msg4

int 21h

jmp end

END:

mov ah,4ch

int 21h

main endp

end main

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