Problem: ASCII to binary and show the number of ones

.model small

.stack 100h

.data

msenter1 db "Please enter the number=$"

msenter2 db "Please enter the second number=$"

msenter3 db "Please enter the Third number=$"

msout db "The number of ones are =$"

.code

main proc

mov ax,@data

mov ds,ax

lea dx,msenter1

mov ah,9

int 21h

mov ah,1

int 21h

mov bl,al

mov ch,0

mov cl,0

mov ah,2

mov dl,0ah

int 21h

mov dl,0dh

int 21h

shift:

inc ch

cmp ch,8

jg exit

shl bl,1

jc one

jnc zero

one:

inc cl

mov dl,"1"

mov ah,2

int 21h

jmp shift

zero:

mov dl,"0"

mov ah,2

int 21h

jmp shift

exit:

mov ah,2

mov dl,0ah

int 21h

mov dl,0dh

int 21h

lea dx,msout

mov ah,9

int 21h

add cl,30h

mov ah,2

mov dl,cl

int 21h

mov ah,4ch

int 21h

main endp

end main

Problem: Two the smallest among three numbers

.model small

.stack 100h

.data

msenter1 db "Please enter the first number=$"

msenter2 db "Please enter the second number=$"

msenter3 db "Please enter the Third number=$"

.code

main proc

mov ax,@data

mov ds,ax

lea dx,msenter1

mov ah,9

int 21h

mov ah,1

int 21h

mov bh,al

mov ah,2

mov dl,0ah

int 21h

mov dl,0dh

int 21h

lea dx,msenter2

mov ah,9

int 21h

mov ah,1

int 21h

mov bl,al

mov ah,2

mov dl,0ah

int 21h

mov dl,0dh

int 21h

lea dx,msenter3

mov ah,9

int 21h

mov ah,1

int 21h

mov ch,al

mov ah,2

mov dl,0ah

int 21h

mov dl,0dh

int 21h

mov cl,1

compare:

cmp bl,bh

jg swap1

swap1ret:

cmp bl,ch

jg swap2

swap2ret:

inc cl

cmp cl,3

jle compare

jg print

swap1:

xchg bl,bh

jmp swap1ret

swap2:

xchg bl,ch

jmp swap2ret

print:

mov dl,bl

mov ah,2

int 21h

mov ah,4ch

int 21h

main endp

end main

Problem :

Take two number as input and show A if first one is greater. Otherwise print B

.model small

.stack 100h

.data

msenter1 db "Please enter the first number=$"

msenter2 db "Please enter the second number=$"

.code

main proc

mov ax,@data

mov ds,ax

lea dx,msenter1

mov ah,9

int 21h

mov ah,1

int 21h

mov bl,al

mov ah,2

mov dl,0ah

int 21h

mov dl,0dh

int 21h

lea dx,msenter2

mov ah,9

int 21h

mov ah,1

int 21h

mov bh,al

mov ah,2

mov dl,0ah

int 21h

mov dl,0dh

int 21h

cmp bl,bh

jge printA

jl printB

printA:

mov dl,"A"

mov ah,2

int 21h

jmp exit

printB:

mov dl,"B"

mov ah,2

int 21h

jmp exit

exit:

mov ah,4ch

int 21h

main endp

end main

Problem : Descending order of two input numbers

.model small

.stack 100h

.data

msenter1 db "Please enter the first number=$"

msenter2 db "Please enter the second number=$"

msout1 db "Ascending order=$"

msout2 db "Descending order=$"

.code

main proc

mov ax,@data

mov ds,ax

lea dx,msenter1

mov ah,9

int 21h

mov ah,1

int 21h

mov bl,al

mov ah,2

mov dl,0ah

int 21h

mov ah,2

mov dl,0dh

int 21h

lea dx,msenter2

mov ah,9

int 21h

mov ah,1

int 21h

mov bh,al

mov ah,2

mov dl,0ah

int 21h

mov ah,2

mov dl,0dh

int 21h

cmp bl,bh

jle swap

jg output

swap:

xchg bl,bh

jmp output

output:

lea dx,msout2

mov ah,9

int 21h

mov dl,bl

mov ah,2

int 21h

mov dl," "

mov ah,2

int 21h

mov dl,bh

mov ah,2

int 21h

jmp exit

exit:

mov ah,4ch

int 21h

main endp

end main

Problem: Ascending order of two input number

.model small

.stack 100h

.data

msenter1 db "Please enter the first number=$"

msenter2 db "Please enter the second number=$"

msout1 db "Ascending order=$"

msout2 db "Descending order=$"

.code

main proc

mov ax,@data

mov ds,ax

lea dx,msenter1

mov ah,9

int 21h

mov ah,1

int 21h

mov bl,al

mov ah,2

mov dl,0ah

int 21h

mov ah,2

mov dl,0dh

int 21h

lea dx,msenter2

mov ah,9

int 21h

mov ah,1

int 21h

mov bh,al

mov ah,2

mov dl,0ah

int 21h

mov ah,2

mov dl,0dh

int 21h

cmp bl,bh

jg swap

jle output

swap:

xchg bl,bh

jmp output

output:

lea dx,msout1

mov ah,9

int 21h

mov dl,bl

mov ah,2

int 21h

mov dl," "

mov ah,2

int 21h

mov dl,bh

mov ah,2

int 21h

jmp exit

exit:

mov ah,4ch

int 21h

main endp

end main

Problem: Take a number as input then check its 5th bit. If the bit is one display yes otherwise no.

.model small

.stack 100h

.data

msenter db "Please enter the character =$"

y db "Yes $"

n db "No $"

.code

main proc

mov ax,@data

mov ds,ax

mov ah,9

lea dx,msenter

int 21h

mov ah,1

int 21h

mov bl,al

mov ah,2

mov dl,0ah

int 21h

mov ah,2

mov dl,0dh

int 21h

shr bl,3

jc printy

jnc printn

printy:

mov ah,9

lea dx,y

int 21h

jmp exit

printn:

mov ah,9

lea dx,n

int 21h

jmp exit

exit:

mov ah,4ch

int 21h

main endp

end main

Problem: Take three number as inputs and print them in ascending order

.model small

.stack 100h

.data

mes1 db "Please enter the three characters=$"

.code

main proc

mov ax,@data

mov ds,ax

lea dx,mes1

mov ah,9

int 21h

mov ah,1

int 21h

mov bl,al

int 21h

mov cl,al

int 21h

mov ch,al

mov bh,1

sort:

cmp bl,cl

jg swap1

cmp cl,ch

jg swap2

inc bh

cmp bh,3

jle sort

jg print

swap1:

xchg bl,cl

jmp sort

swap2:

xchg cl,ch

jmp sort

print:

mov ah,2

mov dl,0ah

int 21h

mov dl,0dh

int 21h

mov dl,bl

int 21h

mov dl,cl

int 21h

mov dl,ch

int 21h

jmp exit

exit:

mov ah,4ch

int 21h

main endp

end main

Problem star print:

(d) \*

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.model small

.stack 100h

.data

msenter db "Please the the number =$"

n db ?

m db ?

.code

main proc

mov ax,@data

mov ds,ax

lea dx,msenter

mov ah,9

int 21h

xor cx,cx

mov bh,1

mov ah,1

int 21h

mov cl,al

sub cl,30h

mov n,cl

jmp outer

outer:

mov dl,0ah

mov ah,2

int 21h

mov dl,0dh

int 21h

mov bl,n

mov m,bl

sub m,bh

shr m,1

mov bl,0

space:

cmp bl,m

jge update

mov ah,2

mov dl," "

int 21h

add bl,1

cmp bl,m

jle space

update:

mov bl,1

jmp inner

inner:

mov ah,2

mov dl,"\*"

int 21h

add bl,1

cmp bl,bh

jle inner

add bh,2

cmp bh,n

jle outer

jg exit

exit:

mov ah,4ch

int 21h

main endp

end main

Problem Star print:

(c) N=3

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.model small

.stack 100h

.data

msenter db "Please the the number =$"

n db ?

m db ?

.code

main proc

mov ax,@data

mov ds,ax

lea dx,msenter

mov ah,9

int 21h

xor cx,cx

xor bh,bh

mov ah,1

int 21h

mov cl,al

sub cl,30h

mov n,cl

jmp outer

outer:

inc bh

mov dl,0ah

mov ah,2

int 21h

mov dl,0dh

int 21h

mov bl,n

mov m,bl

mov bl,0

sub m,bh

space:

cmp bl,m

jge update

mov ah,2

mov dl," "

int 21h

inc bl

cmp bl,m

jle space

update:

mov bl,1

jmp inner

inner:

mov ah,2

mov dl,"\*"

int 21h

inc bl

cmp bl,bh

jle inner

loop outer

mov ah,4ch

int 21h

main endp

end main

Problem: Star print

(a) N=3

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.model small

.stack 100h

.data

msenter db "Please the the number =$"

.code

main proc

mov ax,@data

mov ds,ax

lea dx,msenter

mov ah,9

int 21h

xor cx,cx

xor bh,bh

mov ah,1

int 21h

mov cl,al

sub cl,30h

jmp outer

outer:

mov bl,1

inc bh

mov dl,0ah

mov ah,2

int 21h

mov dl,0dh

int 21h

inner:

mov ah,2

mov dl,"\*"

int 21h

inc bl

cmp bl,bh

jle inner

loop outer

mov ah,4ch

int 21h

main endp

end main

Problem : Star print

(b)

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.model small

.stack 100h

.data

msenter db "Please the the number =$"

.code

main proc

mov ax,@data

mov ds,ax

lea dx,msenter

mov ah,9

int 21h

xor cx,cx

mov ah,1

int 21h

mov cl,al

sub cl,30h

jmp outer

outer:

mov bl,1

mov dl,0ah

mov ah,2

int 21h

mov dl,0dh

int 21h

inner:

mov ah,2

mov dl,"\*"

int 21h

inc bl

cmp bl,cl

jle inner

loop outer

mov ah,4ch

int 21h

main endp

end main

Problem printing 0 to 9

.model small

.stack 100h

.data

.code

main proc

mov cx,10

mov bl,"0"

output:

mov ah,2

mov dl,bl

int 21h

inc bl

mov ah,2

mov dl,0ah

int 21h

mov ah,2

mov dl,0dh

int 21h

loop output

mov ah,4ch

int 21h

main endp

end mainProblem Prime or not checking:

.model small

.stack 100h

.data

msenter db "Please enter any Number =$"

nprime db "The entered number is not a prime number $"

yprime db "The entered number is a prime number $"

.code

main proc

mov ax,@data

mov ds,ax

lea dx,msenter

mov ah,9

int 21h

mov ah,1

int 21h

mov cx,ax

sub cx,30h

mov bh,2

mov ah,2

mov dl,0dh

int 21h

mov dl,0ah

int 21h

division:

div bh

cmp ah,0

je notprime

jg update

notprime:

lea dx,nprime

mov ah,9

int 21h

jmp exit

update:

inc bh

mov ax,cx

cmp cx,bx

jle division

jg prime

prime:

mov ah,9

lea dx,yprime

int 21h

jmp exit

exit:

mov ah,4ch

int 21h

main endp

end main

Problem: Enter your name and show this on the screen

.model small

.stack 100h

.data

msenter db "Please enter your name =$"

msout db "Your name is =$"

w dw ?

.code

main proc

mov ax,@data

mov ds,ax

lea dx,msenter

mov ah,9

int 21h

lea di,w

mov cx,0

input:

inc cx

mov ah,1

int 21h

mov bl,al

mov [di],bl

inc di

cmp bl,0dh

jne input

je newline

newline:

mov ah,2

mov dl,0ah

int 21h

mov dl,0dh

int 21h

lea di,w

mov ah,9

lea dx,msout

int 21h

jmp output

output:

mov ah,2

mov dl,[di]

int 21h

inc di

loop output

exit:

mov ah,4ch

int 21h

main endp

end main

Problem Summation of 2 numbers:

.model small

.stack 100h

.data

msenter1 db "Please enter the First number=$"

msenter2 db "Please enter the Second number=$"

msresult db "The summation of the entered numbers is=$"

.code

proc main

mov ax,@data

mov ds,ax

lea dx,msenter1

mov ah,9

int 21h

mov ah,1

int 21h

mov bh,al

mov ah,2

mov dl,0ah

int 21h

mov dl,0dh

int 21h

lea dx,msenter2

mov ah,9

int 21h

mov ah,1

int 21h

mov bl,al

mov ah,2

mov dl,0ah

int 21h

mov dl,0dh

int 21h

sub bh,30h

sub bl,30h

add bh,bl

add bh,30h

lea dx,msresult

mov ah,9

int 21h

mov ah,2

mov dl,bh

int 21h

main endp

end main

Problem Case conversion of a letter:

.model small

.stack 100h

.data

msenter db "Please enter a character =$"

msout db "Result after case conversion =$"

.code

main proc

mov ax,@data

mov ds,ax

lea dx,msenter

mov ah,9

int 21h

mov ah,1

int 21h

mov bl,al

cmp bl,61h

jg lower

jl upper

lower:

sub bl,20h

jmp print

upper:

add bl,20h

jmp print

print:

mov ah,2

mov dl,0ah

int 21h

mov dl,0dh

int 21h

lea dx,msout

mov ah,9

int 21h

mov ah,2

mov dl,bl

int 21h

mov ah,4ch

int 21h

main endp

end main

Problem Case Conversion Of string:

.model small

.stack 100h

.data

msenter db "Please The String =$"

msout db "After Case Conversion The String is =$"

counter dw ?

w dw ?

.code

main proc

mov ax,@data

mov ds,ax

lea dx,msenter

mov ah,9

int 21h

lea di,w

xor cx,cx

input:

inc cx

mov ah,1

int 21h

mov bl,al

mov [di],bl

inc di

cmp bl,0dh

jne input

je newline

newline:

mov counter,cx

mov ah,2

mov dl,0ah

int 21h

mov dl,0dh

int 21h

lea di,w

mov ah,9

lea dx,msout

int 21h

jmp conversion

conversion:

cmp [di],61h

jg lower

jl upper

lower:

sub [di],20h

inc di

loop conversion

upper:

add [di],20h

inc di

loop conversion

lea di,w

mov cx,counter

jmp output

output:

mov ah,2

mov dl,[di]

int 21h

inc di

loop output

exit:

mov ah,4ch

int 21h

main endp

end main

Problem : The ASCII code of the entered number in binary

.model small

.stack 100h

.data

msenter db "Please enter a character=$"

msout db "The ASCII code of the entered number in binary is=$"

.code

main proc

mov ax,@data

mov ds,ax

lea dx,msenter

mov ah,9

int 21h

mov ah,1

int 21h

mov bl,al

mov cx,8

mov ah,2

mov dl,0ah

int 21h

mov dl,0dh

int 21h

lea dx,msout

mov ah,9

int 21h

jmp show

show:

shl bl,1

jc print1

jnc print0

print0:

mov dl,"0"

mov ah,2

int 21h

loop show

print1:

mov dl,"1"

mov ah,2

int 21h

loop show

mov ah,4ch

int 21h

main endp

end main