

NAME: RIMSHA LARAIB	SEAT NUMBER: B21110006107	COURSE CODE: BSCS 403	SECTION: A (MORNING)
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LAB TASK # 4

1. Practice code of LOOP

CODE:

DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: EDIT

File Edit Search View Options Help C:\F10.ASM

```
program to print capital and small letters from Aa to Zz and numbers from 0-9t
dosseg
.model small
.stack 100h
.data
.code
main proc
mov cx,26
mov dx,65
l1:
mov ah,2
int 21h
inc dx
loop l1
mov dx,10
mov ah,2
int 21h
mov dx,13
mov ah,2
int 21h
mov cx,10
mov dx,48
l2:
mov ah,2
int 21h
inc dx
loop l2
mov dx,10
mov ah,2
int 21h
mov dx,13
mov ah,2
int 21h
mov cx,26
mov dx,97
l3:
mov ah,2
int 21h
inc dx
loop l3
mov ah,4ch
int 21h
main endp
end main
```

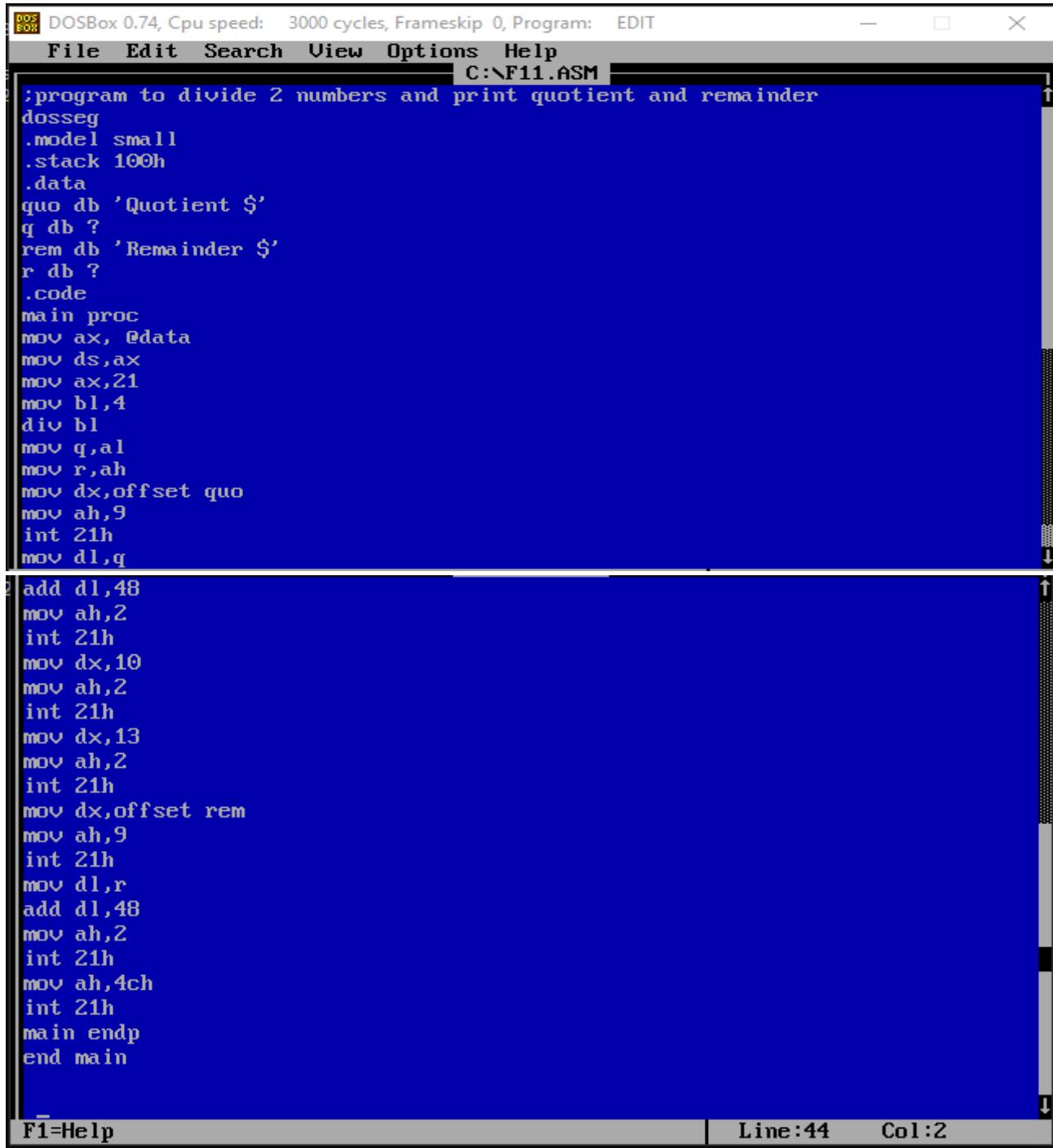
F1=Help | Line:42 Col:40

OUTPUT:

```
C:\>f10.exe
ABCDEFGHIJKLMNOPQRSTUVWXYZ
0123456789
abcdefghijklmnopqrstuvwxyz
C:\>
```

2. Practice code of DIV

CODE:



DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: EDIT

File Edit Search View Options Help C:\F11.ASM

```
;program to divide 2 numbers and print quotient and remainder
dosseg
.model small
.stack 100h
.data
quo db 'Quotient $'
q db ?
rem db 'Remainder $'
r db ?
.code
main proc
mov ax, @data
mov ds,ax
mov ax,21
mov bl,4
div bl
mov q,al
mov r,ah
mov dx,offset quo
mov ah,9
int 21h
mov dl,q
add dl,48
mov ah,2
int 21h
mov dx,10
mov ah,2
int 21h
mov dx,13
mov ah,2
int 21h
mov dx,offset rem
mov ah,9
int 21h
mov dl,r
add dl,48
mov ah,2
int 21h
mov ah,4ch
int 21h
main endp
end main
```

F1=Help | Line:44 Col:2

OUTPUT:

```
C:\>f11.exe
Quotient 5
Remainder 1
C:\>
```

3. Practice of OR, AND, XOR

CODE:

The screenshot shows the DOSBox 0.74 interface with the title bar "DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: EDIT". The menu bar includes File, Edit, Search, View, Options, and Help. The current file is "C:\F12.ASM". The assembly code is as follows:

```
;program to perform AND, OR ,XOR operation in binary numbers
dosseg
.model small
.stack 100h
.data
h1 db 'AND OPERATION BETWEEN 101 AND 110 IS $'
h2 db 'OR OPERATION BETWEEN 101 AND 110 IS $'
h3 db 'XOR OPERATION BETWEEN 101 AND 110 IS $'
.code
main proc
mov ax, @data
mov ds,ax
mov dx,offset h1
mov ah,9
int 21h
mov bl,101b
and bl,110b
add bl,48
mov dl,bl
mov ah,2
int 21h
mov dx,10
int 21h
mov dx,13
mov ah,2
int 21h
mov dx,offset h2
mov ah,9
int 21h
mov bl,101b
or bl,110b
add bl,48
mov dl,bl
mov ah,2
int 21h
mov dx,10
mov ah,2
int 21h
mov dx,13
mov ah,2
int 21h
mov dx,offset h3
mov ah,9
int 21h
mov bl,101b
xor bl,110b
add bl,48
mov dl,bl
mov ah,2
int 21h
mov ah,4ch
int 21h
main endp
end main
```

OUTPUT:

```
C:\>f12.exe  
AND OPERATION BETWEEN 101 AND 110 IS 4  
OR OPERATION BETWEEN 101 AND 110 IS 7  
XOR OPERATION BETWEEN 101 AND 110 IS 3  
C:\>
```

4. Your code as discussed in today class

CODE:

The screenshot shows the DOSBox interface with the title bar "DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: EDIT" and the window title "C:\F14.ASM". The assembly code is as follows:

```
dosseg  
.model small  
.stack 100h  
.data  
q db ?  
r db ?  
.code  
main proc  
mov ax, @data  
mov ds,ax  
mov cx,4  
l1:  
mov ax,9  
mov bl,2  
div bl  
mov q,al  
mov r,ah  
mov dl,q  
add dl,48  
mov ah,2  
int 21h  
mov dl,r  
add dl,48  
mov ah,2  
int 21h  
loop l1  
mov dx,10  
mov ah,2  
int 21h  
mov dx,13  
mov ah,2  
int 21h  
mov cx,3  
l2:  
mov bl,111b  
and bl,101b  
add bl,48  
mov dl,bl  
mov ah,2  
int 21h  
loop l2  
mov ah,4ch  
int 21h  
main endp  
end main
```

At the bottom, the status bar shows "F1=Help" and "Line:46 Col:1".

OUTPUT:

```
C:\>f14.exe  
41414141  
555  
C:\>_
```