

# **Computer Organization and Assembly Language**

## Lab 4

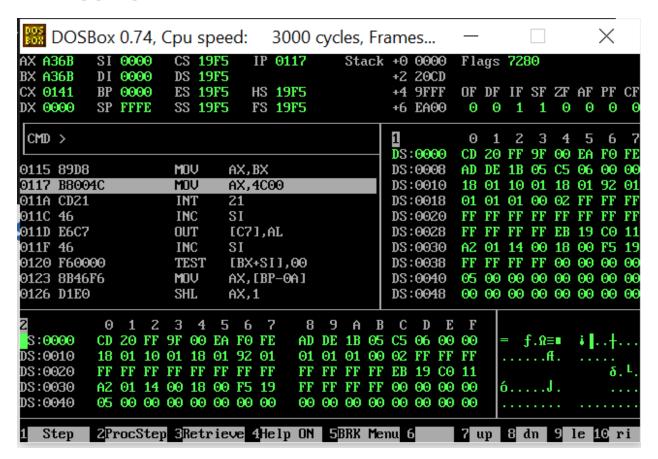
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Class	CS3
Section	A1
Semester	Fall 2022

Fast School of Computing

FAST-NU, Lahore, Pakistan

# **Activity 1:**

### **Assembly Language Code**

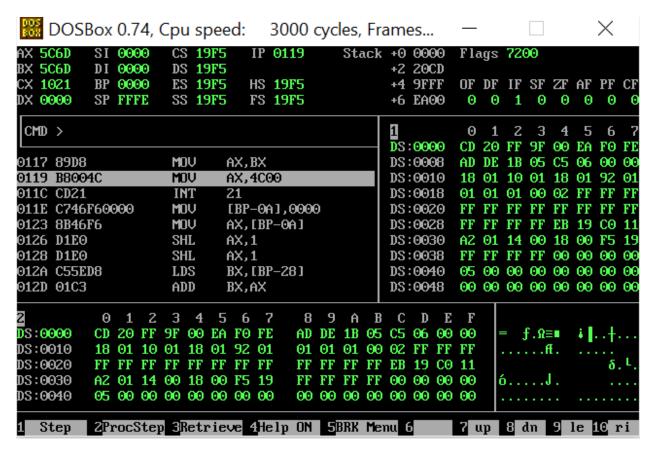


# **Activity 2**

## **Assembly Language Code**

```
[org 0x0100]
    mov ax,0x5397
    mov bx,ax
    mov cx,ax
    and bx,001100110011001
    and cx,110011001100100b
    shl bx,2
    shr cx,2
    or bx,cx
    mov ax,bx

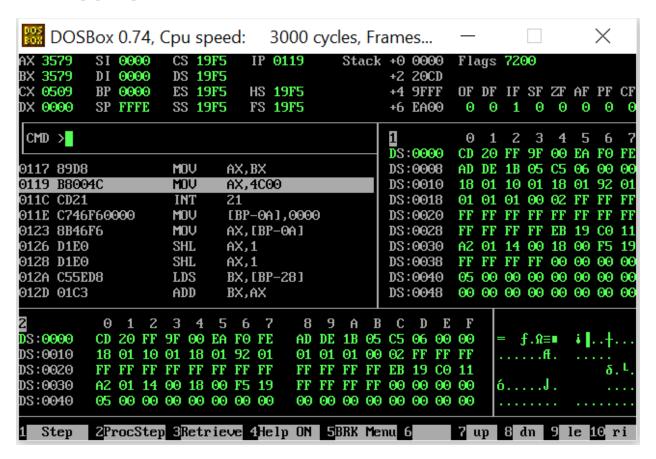
mov ax,0x4c00
int 0x21
```



# **Activity 3:**

## **Assembly Language Code**

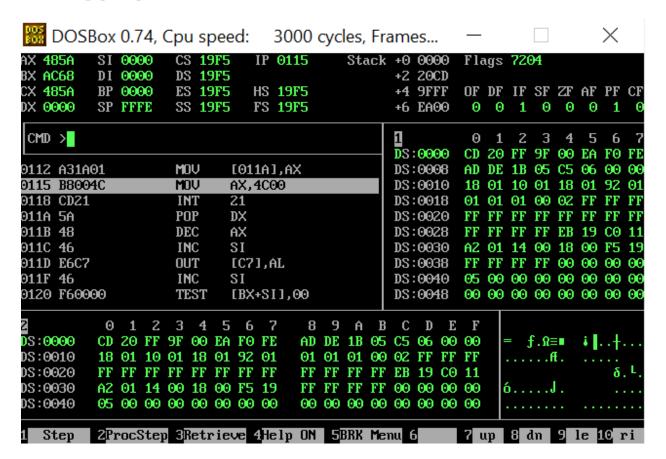
```
[org 0x0100]
mov ax,0x5397
mov bx,ax
mov cx,ax
and bx,0000111100001111b
and cx,1111000011110000b
shl bx,4
shr cx,4
or bx,cx
mov ax,bx
mov ax,0x4c00
int 0x21
```



# **Activity 4**

## **Assembly Language Code**

```
[org 0x0100]
mov ax,0x5397
mov bx,111111111111111
xor bx,ax
mov cx,ax
or ax,bx
xor cx,0x1BCD
and ax,cx
mov word[f],ax
mov ax,0x4c00
int 0x21
f:dw 0
```



# **Activity 5**

# **Assembly Language Code**

```
org 0x0100
mov ax,[roll]
mov ax, bx
not bx
mov [f],ax
shl word[f],16
add [f],bx
start: mov cl,16
       mov dx,[bx]
checkbit: shr dx,1
          jnc skip
mov ax,[roll]
add [mult],ax
mov ax,[roll+2]
adc [mult+2],ax
skip: shl word[roll],1
      rcl word[roll+2],1
      dec cl
      jnz checkbit
mov ax,[mult]
add word[f],ax
mov ax,[mult+2]
adc word[f+2],ax
mov ax,0x4c00
int 0x21
f:dd 0
roll: dw 0111011100011000b
mult: dd 0
```

