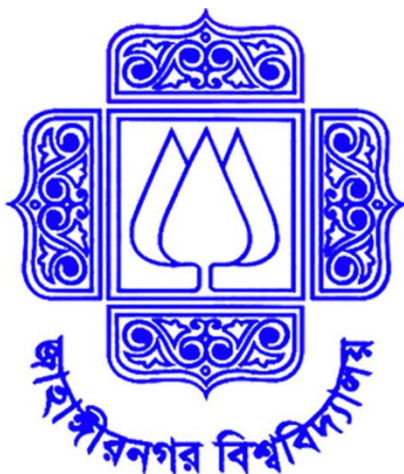


# **Jahangirnagar University (JU)**



**Institute of Information Technology**

**Lab Report-2**

**Assembly Language**

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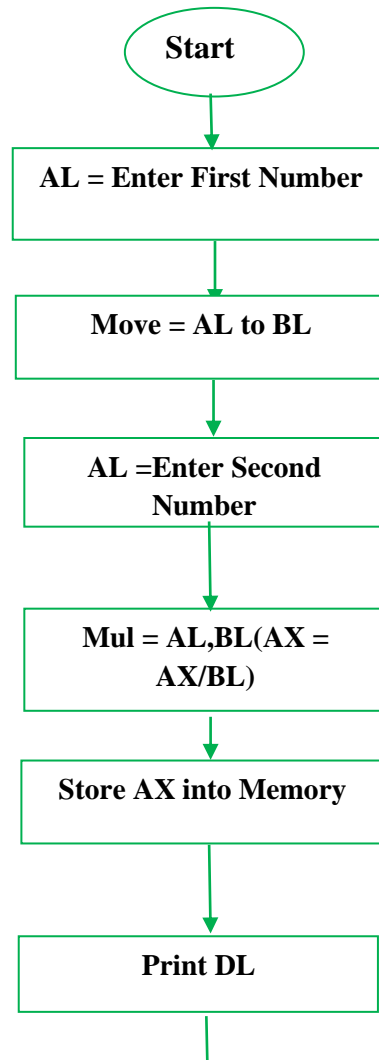
**Class Roll:2023**

## **Experiment 1. Multiplication of two 8-bit numbers (Using an assembly language program).**

### **Algorithm:**

- Step 1: Take First input from User and Load to AL (first number)
- Step 2: Move AL data to BL register
- Step 3: Take Second input from User and Load to AL (second number)
- Step 4: Multiply these two numbers (contents of register BL and register AL)
- Step 5: Add 48 with BL register for correct ASCII value
- Step 6: Move BL data to DL
- Step 7: Print DL
- Step 8: Stop

### **Flow chart:**



## **Program Source Code.**

```
include 'emu8086.inc'
.stack 100h
.model small
.data

.code

main proc

print 'Enter first number:'

mov ah,01h
int 21h

mov bl,al
sub bl,48

mov dl,10
mov ah,02h
int 21h

mov dl,13
mov ah,02h
int 21h

print 'Enter second number:'

mov ah,01h
int 21h
sub al,48

mul bl
```

```
mov bl,al  
add bl,48
```

```
mov dl,10  
mov ah,02h  
int 21h
```

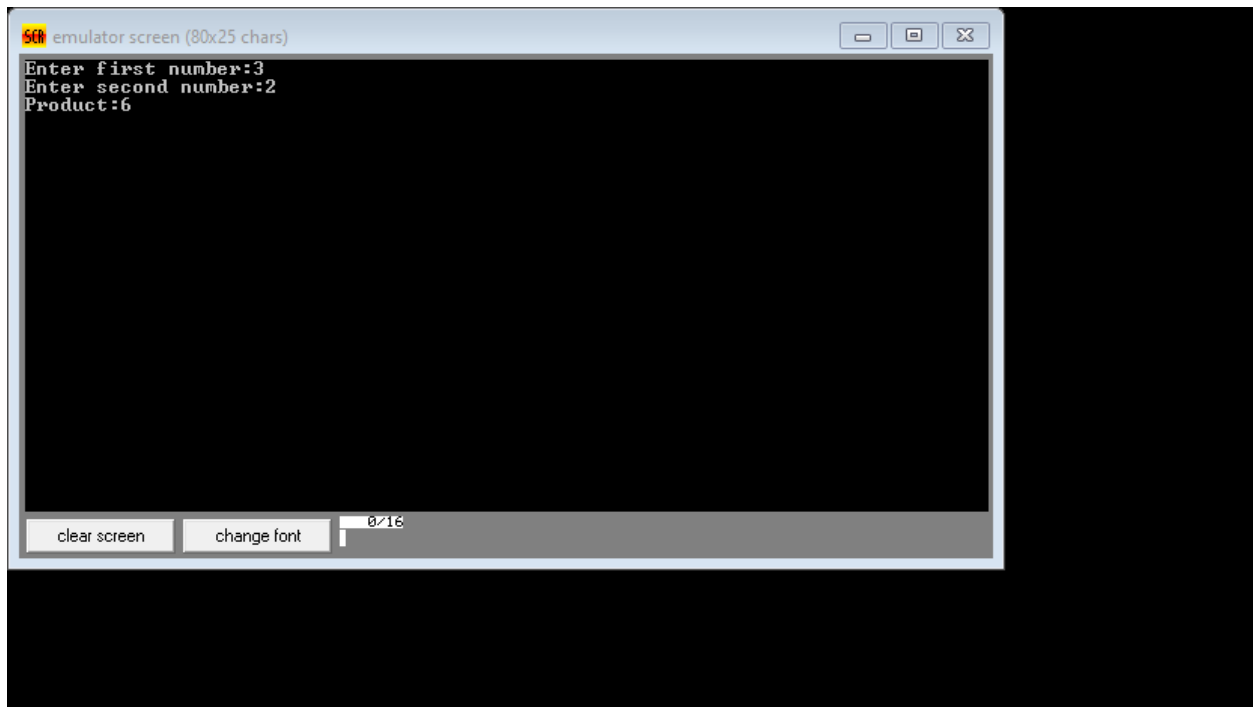
```
mov dl,13  
mov ah,02h  
int 21h
```

```
print 'Product:'
```

```
mov dl,bl  
mov ah,02h  
int 21h
```

```
main endp  
end main
```

**Sample input and output:**



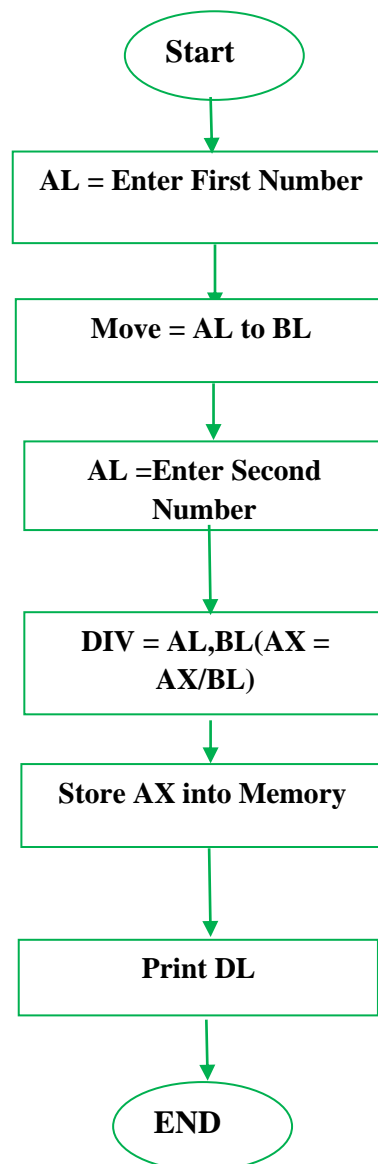
## **Experiment 2. Division of two 8-bit numbers (Using an assembly language program)**

### **Algorithm:**

- Step 1: Take First input from User and Load to AL (first number)
- Step 2: Move AL data to BL register
- Step 3: Take Second input from User and Load to AL (second number)
- Step 4: Divide these two numbers (contents of register BL and register AL)
- Step 5: Store result to AX

- Step 6: Subtract 48 from BL register for correct ASCII value  
Step 7: Move BL data to DL  
Step 8: Print DL  
Step 9: Stop

**Flow chart:**



## **Program Source Code:**

```
include 'emu8086.inc'
.stack 100h
.model small
.data
.code
    main proc

        print 'Enter First Number = '

        mov ah,01h
        int 21h
        mov bl,al
        sub bl,48

        mov dl,10
        mov ah,02h
        int 21h

        mov dl,13
        mov ah,02h
        int 21h

        print 'Enter Second Number = '

        mov ah,01h
        int 21h
        sub al,48

        MUL bl
        mov bl,al
        add bl,24

        mov dl,10
        mov ah,02h
        int 21h


        mov dl,13
        mov ah,02h
        int 21h
```

```
print 'Division = '
```

```
mov dl,bl  
mov ah,02h  
int 21h
```

```
main endp  
end main
```

### **Sample input and output:**

 emulator screen (80x25 chars)

```
Enter First Number = 3  
Enter Second Number = 9  
Division = 3
```