MAWLANA BHASHANI SCIENCE AND TECHNOLOGY UNIVERSITY

Santosh,Tangail-1902

LAB REPORT

Lab Report No : 01

Lab Report name : Assembly Language-01

Course Title : Microprocessor and Assembly Language Lab

Course Code : ICT- 3106

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Program-1: Write an assembly language program to print a character.

Algorithms:

1. Start the program

2. Move the character in dl register

3. Display the character

4. Stop the program

Source Code:

```
.model small

.stack 100h

.code

main proc

mov ah, 2

mov dl, 67

int 21h


mov ah,4ch

int 21h

main endp

end main
```

Output:

Program -2: Write an assembly language program to print a number.

Algorithms:

1. Start the program

2. Move the number in dl register

3. Display the number

4. Stop the program

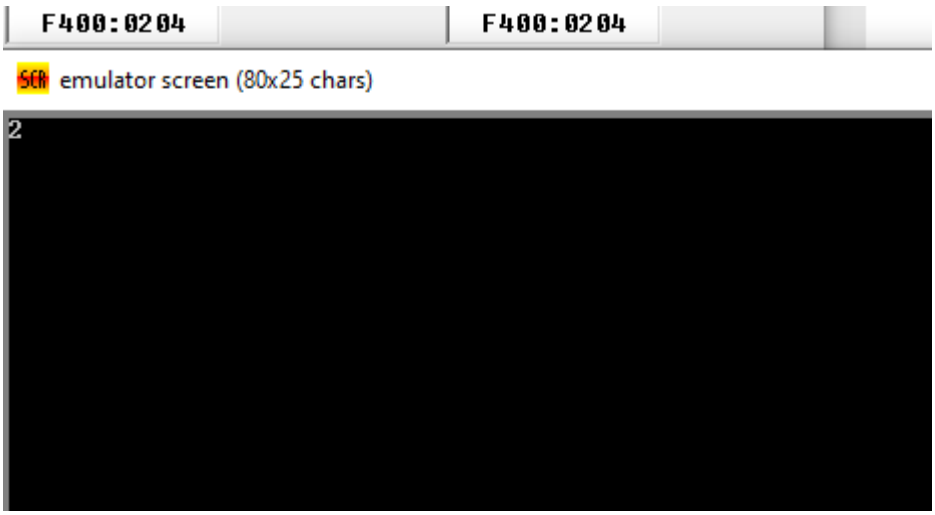
Source Code:

```
.model small

.stack 100h

.code

main proc

   mov ah,2

   mov dl,50

   int 21h
```

```
    mov ah,4ch
    int 21h
    main endp
end main
```

Input:50

Output:



Program -3: Write an assembly language program to print several characters with new line.

Algorithms:

1. Start the program

2.Move the Character in ‘dl’ register.

3.Display the character.

4.Display a new line.

5.Again move a character in ‘dl’ register.

6.Display the character.

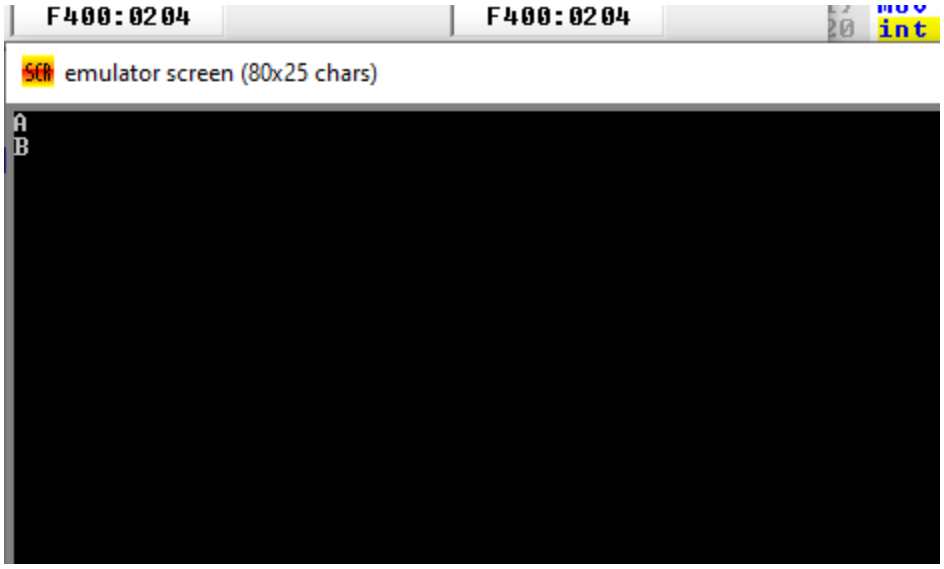
7. Stop the program

Source Code:

```
.model small
.stack 100h
.code
main proc
   mov ah,2
   mov dl,65
   int 21h

   mov ah,2
   mov dl,10
   int 21h
   mov dl,13
   int 21h

   mov ah,2
   mov dl,66
   int 21h

   mov ah,4ch
   int 21h
   main endp
end main
```

Input:65 66

Output:



Program -4: Write an assembly language program to print several numbers with new line.

Algorithms:

1.Start the program.

2.Move the digit in ‘dl’ register.

3.Display the digit.

4.Display a new line.

5.Again move a digit in ‘dl’ register.

6.Display the digit.

7.Stop the program.

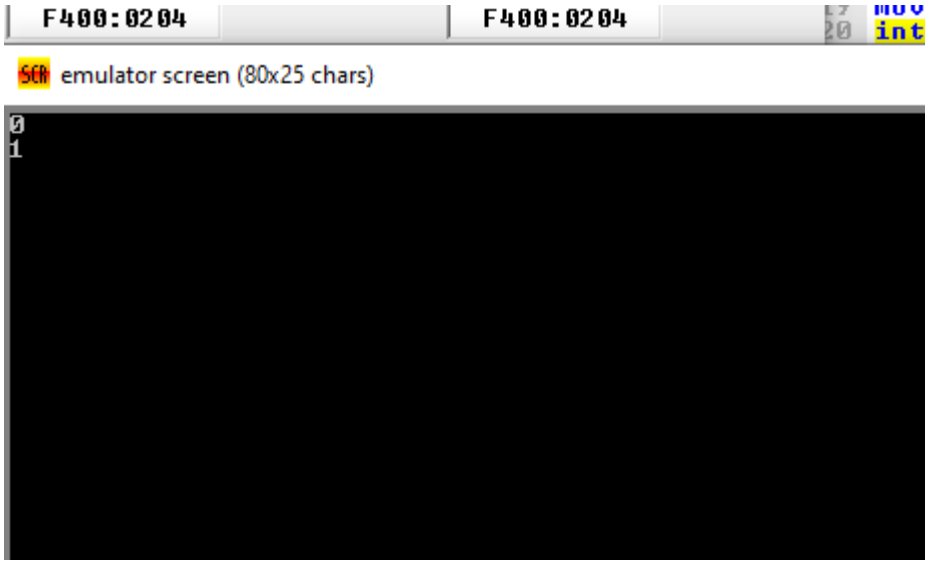
Source Code:

.model small

```
.stack 100h
.code
main proc
    mov ah,2
    mov dl,48
    int 21h

    mov ah,2
    mov dl,10
    int 21h
    mov dl,13
    int 21h

    mov ah,2
    mov dl,49
    int 21h

    mov ah,4ch
    int 21h
    main endp
end main
```

Input:48 49

Output:



Program-5. Write an assembly program to enter character or digit and display it on the screen with new line.

Algorithms:

1.Start the program

2.Enter a character or digit from ‘al’ register.

3. Move the character or digit in ‘bh’ register.

4.Display a new line.

5.Move the character or digit to ‘dl’ register.

6.Display the digit or character.

7.Stop the program.

Source Code:

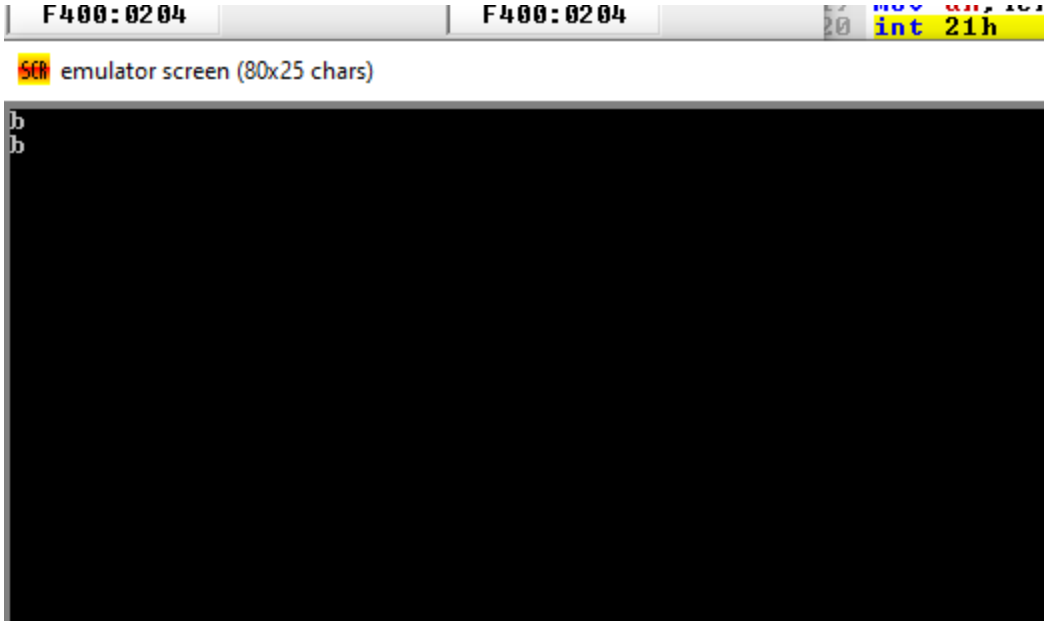
.model small

.stack 100h

.code

```
main proc
    mov ah,1
    int 21h
    mov bl,al

    mov ah,2
    mov dl,10
    int 21h
    mov dl,13
    int 21h

    mov ah,2
    mov dl,bl
    int 21h

    mov ah,4ch
    int 21h
    main endp
end main
```

Output:



Program-5. Write an assembly program to enter several character or digit and display it on the screen with new line.

Algorithms:

1.Start the program

2.Enter a character or digit from ‘al’ register.

3. Move the character or digit in ‘bh’ register.

4.Display a new line.

5.Move the character or digit to ‘dl’ register.

6.Display the digit or character.

7.Stop the program.

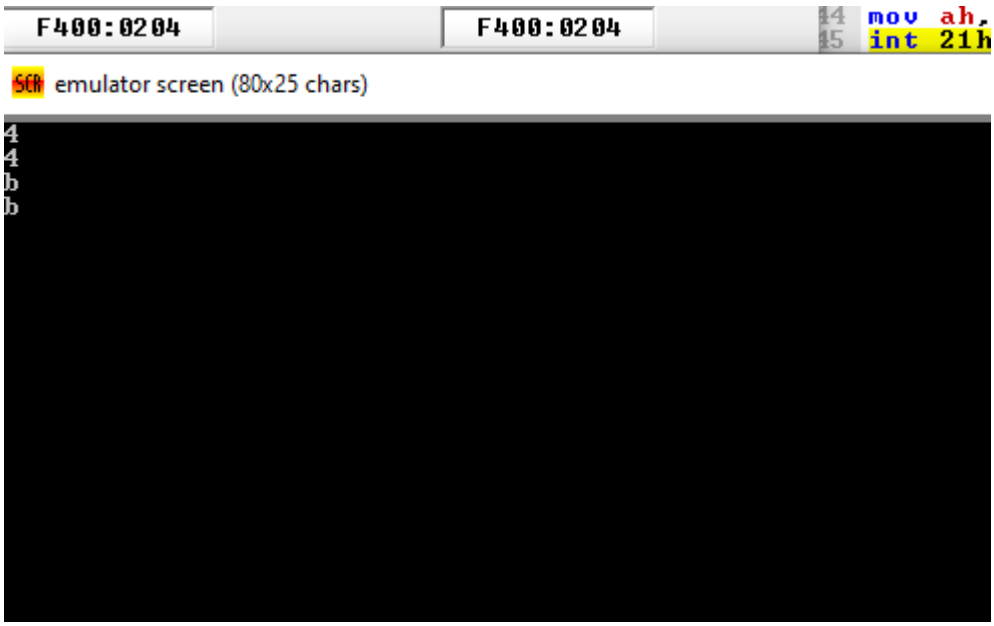
Source Code:

.model small

```
.stack 100h
.code
main proc
    mov ah,1
    int 21h
    mov bl,al

    mov ah,2
    mov dl,10
    int 21h
    mov dl,13
    int 21h

    mov ah,2
    mov dl,bl
    int 21h

    mov ah,2
    mov dl,10
    int 21h
    mov dl,13
    int 21h

     mov ah,1
    int 21h
```

```
    mov bl,al


    mov ah,2
    mov dl,10
    int 21h
    mov dl,13
    int 21h



    mov ah,2
    mov dl,bl
    int 21h


    mov ah,4ch
    int 21h
    main endp
end main
```

Output:



6. Write an assembly program to enter several character or digit and display it on the screen with new line.

Algorithm:

1.Start the program.

2.Enter a character from ‘al’ register.

3.Move the digit or character to ‘bh’ register.

4.Enter another character or digit form ‘al’ register.

5.Move the character or digit to ‘bl’ register.

6.Display a new line.

7.Move the character or digit stored in ‘bh’ register to ‘dl’ register.

8.Display the character or digit.

9.Display a new line.

10. the character or digit stored in ‘bl’ register to ‘dl’ register.

11. Display the character or digit.

12.Stop the program.

Source code:

```
.model small
 .stack 100h
.code
 main proc
 mov ah,1
int 21h
mov bh,al
 int 21h
 mov bl,al
 mov ah,2
 mov dl,10
 int 21h
 mov dl,13
 int 21h
mov ah,2
mov dl,bh
 int 21h
 mov ah,2
 mov dl,10
 int 21h
 mov dl,13
 int 21h
 mov ah,2
mov dl,bl
```

```
 int 21h
exit:
mov ah,4ch
 int 21h
 main endp
 end main
```

Output:

Program-7. Write an assembly program to print a character or digit using variable.

Algorithms:

1.Start the Program.

2.Declare a variable.

3.Initialize the variable.

4.Display the variable.

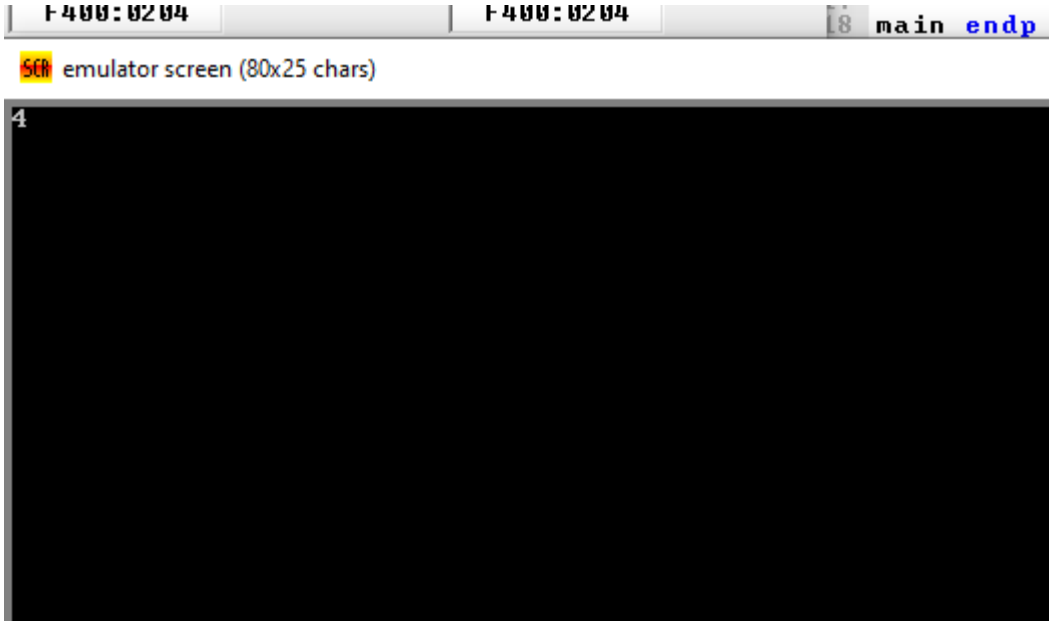
5.Stop the program.

Source Code:

```
.model small
```

```
.stack 100h
.data
info db 3
.code
main proc
    mov ax,@data
    mov ds,ax

    mov ah,2
    add info,49
    mov dl,info
    int 21h

    mov ah,4ch
    int 21h

    main endp
end main
```

Output:



Program-8: Write an assembly program to print a string.

Algorithms:

1.Start the Program.

2.Declare a variable.

3.Initialize the variable.

4.Display the variable.

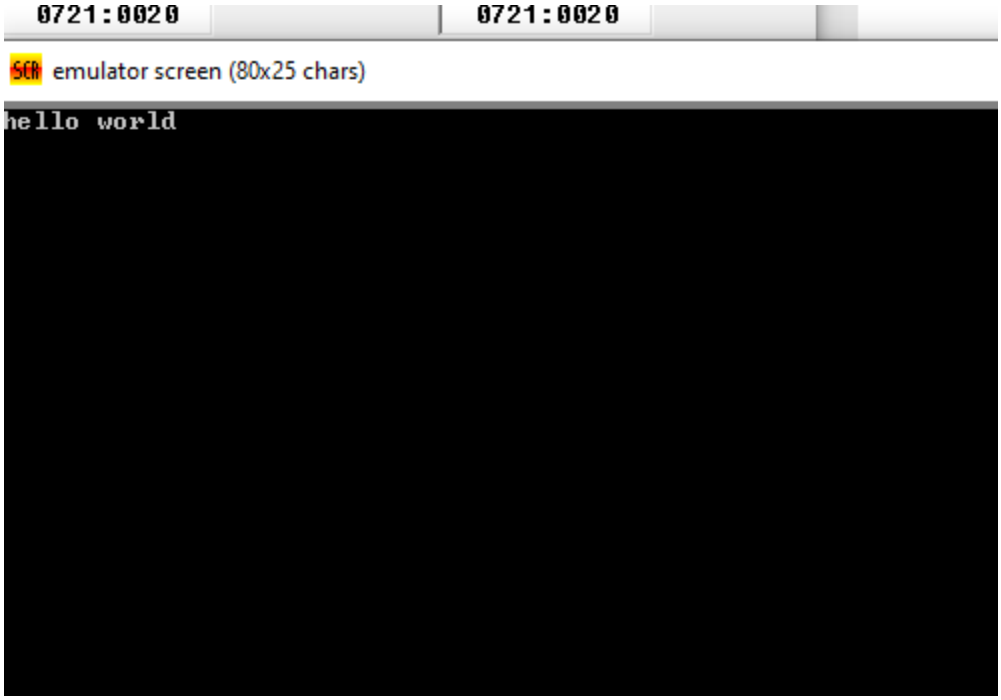
5.Stop the program.

Source Code:

```
.model small

.stack 100h

.data

info db "hello world$"

.code

main proc
```

```
mov ax,@data

mov ds,ax


mov ah,9

lea dx,info

int 21h
```

Output:



Program-9. Write an assembly program to print a string and enter character/digit and display it.

Algorithms:

1.Start the Program.

2.Declare a variable.

3.Initialize the variable.

4.Display the variable.

5.Enter a character or digit.

6.Display it.

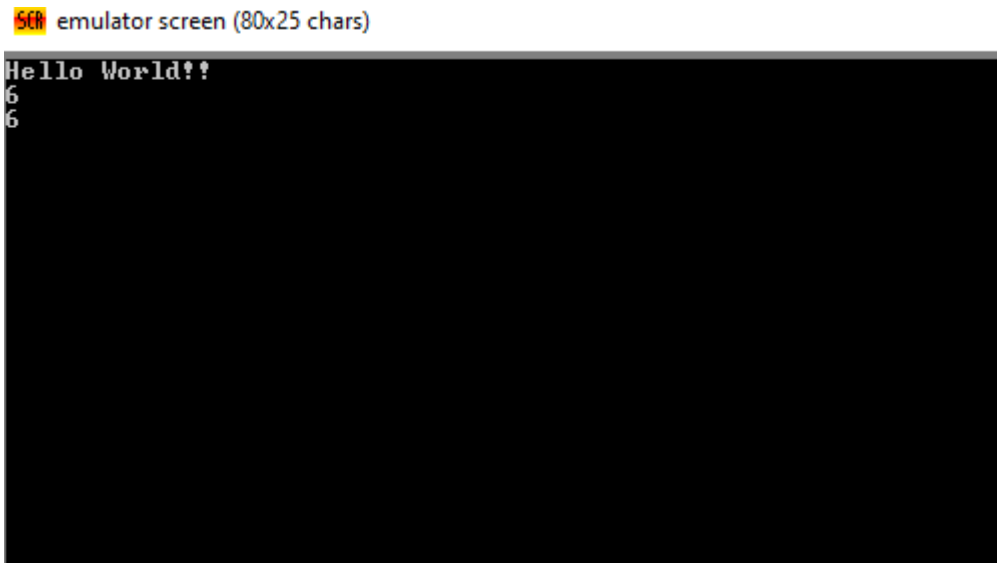
7.Stop the Program.

Source Code:

```
.MODEL SMALL

.STACK 100H

.DATA

info DB "Hello World!!$"

.CODE

MAIN PROC

MOV AX,@DATA

MOV DS,AX


MOV AH,9

LEA DX,info

INT 21H


MOV AH, 2

MOV DL, 10

INT 21H

MOV DL, 13

INT 21H


MOV AH,1

INT 21H
```

```
MOV BL,AL


MOV AH, 2

MOV DL, 10

INT 21H

MOV DL, 13

INT 21H


MOV AH,2

MOV DL,BL

INT 21h
```

Output:



Program -10:Write an assembly program to read first, middle, and last initials of a person's name, and display them in left margin.

Algorithm:

1.Start the program.

2.Declare three variable.

3.Initialize those three variable.

4.Display three variable.

5.Stop the program.

Source code:

```
.model small

.stack 100h

.data

first db "MD $"

middle db 10,13,"TANVIR $"

last db 10,13,"AHMED $"

.code

main proc

 mov ax,@data

 mov ds,ax


 mov ah,9

 lea dx,first

 int 21h

 lea dx,middle

 int 21h

 lea dx,last

 int 21h
```

```
exit:
mov ah,4ch
int 21h
main endp
end main
```

Output: