

# Lab Report

## Lab – 02

Course No: 3110

Course Name: Sessional Based on 3109 (Microprocessors and Assembly Language)

### Submitted To:

Sadia Zaman Mishu

Assistant Professor,

Department of CSE, RUET

### Submitted By:

Anika Tabassum Era

Roll: 1703176

Section: C

## Experiment No: 02

Experiment Name: Write an assembly language program to read one of the HEX digits (A-F) and display it on next line in decimal.

### Code:

```
.MODEL SMALL
```

```
.STACK 100H
```

```
.DATA
```

```
MSG1 DB 0AH, 0DH, 'Enter a hex digit: $'
```

```
MSG2 DB 0AH, 0DH, 'In decimal it is: $'
```

```
.CODE
```

```
MAIN PROC
```

```
    ;INITIALIZING PROMPT USER
```

```
    MOV AX, @DATA
```

```
    MOV DS, AX
```

```
    ; FIRST PROMPT USER MSG
```

```
    LEA DX, MSG1
```

```
    MOV AH,9
```

INT 21H

;INPUT HEX DIGIT

MOV AH, 1

INT 21H

MOV BL,AL

SUB BL,17D ;CONVERTING THE HEX CHARACTER IN DECIMAL

;LINE FEED

MOV DL,0AH

MOV AH,2

INT 21H

;CARRIAGE RETURN

MOV DL,0DH

MOV AH,2

INT 21H

;SECOND PROMPT USER MSG

LEA DX, MSG2

MOV AH,9

INT 21H

MOV DL,49D ;PRINTING "1" BEFORE BL

MOV AH,2

INT 21H

; PRINT THE CONVERTED VALUE THAT IS STORED IN BL

MOV DL,BL

MOV AH,2

INT 21H

;DOS RETURN

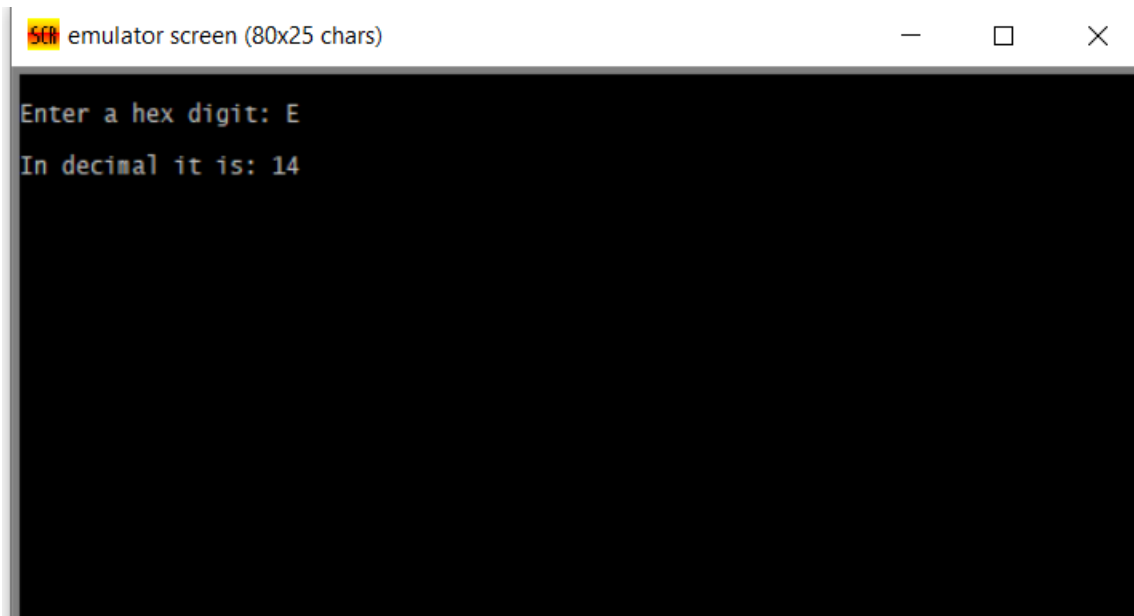
MOV AH, 4CH

INT 21H

MAIN ENDP

END MAIN

## Output:



```
sft emulator screen (80x25 chars)
Enter a hex digit: E
In decimal it is: 14
```

## Discussions:

In this specified problem the HEX digit was converted in the corresponding number according to the ASCII code interpretation. And the initial digit was set before displaying the corresponding converted HEX digit.