

Heaven's Light is Our Guide



Rajshahi University of Engineering and Technology

Department of Computer Science and Engineering

Course No: CSE.3110

Course Title: Sessional based on CSE.3109(Microprocessors & Assembly Language)

Assignment No: 01

Submitted By

Md. Ariful Islam

Roll No: 1803046

Section: A

Department: CSE

Submitted To

Tasmia Jannat

Lecturer

Dept. of CSE,RUET

Date: 23/06/2022

RUET

Problem: Write a code that will take an input from the user and print the ASCII code of the input in hexadecimal form.

Code:

Title: HEXA CODE OF INPUT

```
.MODEL SMALL
.STACK 100H
.DATA
    MSG1 DB 'ENTER A KEY: $'
    MSG2 DB 'THE HEXA OF THE ASCII VALUE OF THE INPUT IS: $'

.CODE
MAIN PROC
    MOV AX,@DATA
    MOV DS,AX

;Print MSG1
    LEA DX,MSG1
    MOV AH,9
    INT 21H

;Character Input
    MOV AH,1
    INT 21H
    MOV BL,AL

;Line-Break
    MOV AH,2
    MOV DL,0DH
    INT 21H
    MOV DL,0AH
    INT 21H

;Print MSG2
    LEA DX,MSG2
    MOV AH,9
    INT 21H

;Keep copy of BL in BH
    MOV BH,BL

;Right-Shift BL 4 times
    SHR BL,4
    MOV DL,BL
```

```
;Compare if DL & 9
CMP DL,9
;Jump to CHAR part if Greater than 9
JG CHAR1
;Add 30H for 0-9
ADD DL,30H
JMP PRINT1
```

```
CHAR1:
;Add 31H for A-F
ADD DL,31H
```

```
PRINT1:
;Print First Value
MOV AH,2
INT 21H
```

```
;Get the Copied value of Input
MOV BL,BH
;AND '00001111' for last 4 bits
AND BL,0Fh
```

```
MOV DL,BL
;Compare if DL & 9
CMP DL,9
;Jump to CHAR part if Greater than 9
JG CHAR2
;Add 30H for 0-9
ADD DL,30H
JMP PRINT2
```

```
CHAR2:
;Add 31H for A-F
ADD DL,31H
```

```
PRINT2:
;Print Second Value
MOV AH,2
INT 21H
```

```
MOV AH,4CH
INT 21H
```

```
MAIN ENDP
END MAIN
```

Output:

SCA emulator screen (80x25 chars)

```
ENTER A KEY: 0  
THE HEXA OF THE ASCII VALUE OF THE INPUT IS: 30
```

SCA emulator screen (80x25 chars)

```
ENTER A KEY: a  
THE HEXA OF THE ASCII VALUE OF THE INPUT IS: 61
```

SCA emulator screen (80x25 chars)

```
ENTER A KEY: A  
THE HEXA OF THE ASCII VALUE OF THE INPUT IS: 41
```

END