Ahsanullah University of Science & Technology

Department of Computer Science & Engineering

Course No : CSE2214

Course Title : Assembly Language Programming Sessional
Assignment No : 04

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Section : B

Question No : 01

Question : Write a program to input an uppercase letterz and display its corrzesponding lowercase letterz.

Answerz :

```
. MODEL SMALL
. STACK 100H
. DATA

CR  EQU 0DH
LF  EQU 0AH

MSG1  DB 'ENTER A UPPERCASE LETTER : $'
MSG2  DB 0DH, 0AH, 'IN LOWERCASE IT IS :'
CHAR  DB ?, '$'

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

      ; print userz prompt
      LEA DX, MSG1
      MOV AH, 9
      INT 21H
```

```
; input a character and convert to lowercase

MOV  AH, 1
INT  21H
ADD  AL, 20H
MOV  CHAR, AL

; display on the next line

LEA  DX, MSG2
MOV  AH, 9
INT  21H

; DOS Exit

     MOV  AH, 4CH
     INT  21H
     MAIN ENDP

END  MAIN
```

Question No : 02

Question : Write a program to read two decimal digits whose sum is less than 10 and display them and their sum in the next line with an appropriate message.

Answer :

```
. MODEL SMALL
. STACK 100H
. DATA

A  DB 'ENTER FIRST NUMBER : $'
B  DB 'ENTER SECOND NUMBER : $'
C  DB 'THE SUM IS : $'

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

    ; First Message
    MOV AH, 9
    LEA DX, A
    INT 21H
```

```
; NEW LINE

MOV AH, 2

MOV DL, 0AH

INT 21H

MOV DL, 0DH

INT 21H

; First Input

MOV AH, 1

INT 21H

MOV BL, AL

; NEW LINE

MOV AH, 2

MOV DL, 0AH

INT 21H

MOV DL, 0DH

INT 21H

; second Message

MOV AH, 9

LEA DX, B

INT 21H
```

```
; New Line

MOV AH, 2

MOV DL, 0AH

INT 21H

MOV DL, 0DH

INT 21H

; Second input

MOV AH, 1

INT 21H

MOV BH, AL

; New Line

MOV AH, 2

MOV DL, 0AH

INT 21H

MOV DL, 0DH

INT 21H

; Third Message

MOV AH, 9

LEA DX, C

INT 21H
```

```
; New Line

MOV AH, 2

MOV DL, 0AH

INT 21H

MOV DL, 0DH

INT 21H


; Calculation and Display

ADD BL, BH

SUB BL, 48

MOV DL, BL

INT 21H


; Return

MOV AH, 4CH

INT 21H

MAIN ENDP

END MAIN
```