AHSANULLAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

Department of Computer Science and Engineering
Program: BSc in Computer Science and Engineering

Course Code: CSE 2214

Assignment No: 02

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1. Write a program that will prompt the user to enter a hex digit character(0-F), display it on the next line in decimal and ask the user if he or she wants to do it again. If the user types "Y", the program repeats. If the user types "N" the program terminates. If the user enters an illegal character, prompt the user to try again.

Answer:

```
.model small
.stack 100h
.data
 a db 'Enter a hex digit character(0-F) : $'
 b db 'if you want to do it again?(Y/N) $'
 c db 'Try Again$'
.code

main proc
 mov ax,@data
 mov ds,ax

 Repeat:

 mov ah,9
 lea dx,a
 int 21h

 mov ah,1
 int 21h

 cmp al,'0'
 jl Invalid

 cmp al,'9'
 jle valid

 cmp al,'A'
 jl Invalid

 cmp al,'F'
 jle Valid

 Invalid:
 mov ah,2
```

```asm
    mov dl,13
    int 21h
    mov dl,10
    int 21h

    mov ah,9
    lea dx,c
    int 21h

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

Valid:

    mov bl,al

    cmp bl,57

    jg L2

     L1:
    mov ah,2
    mov dl,13
    int 21h
    mov dl,10
    int 21h
    mov dl,bl
    int 21h
    jmp Goto

L2:
    mov ah,2
    mov dl,13
    int 21h
    mov dl,10
    int 21h
    mov dl,'1'
    int 21h
    sub bl,17
```

```
    mov dl,bl
    int 21h



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

    mov ah,9
    lea dx,b
    int 21h

    mov ah,1
    int 21h

    cmp al,'Y'
    mov ah,2
    mov dl,13
    int 21h
    mov dl,10
    int 21h

    je Repeat

    cmp al,'N'
    je exit


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

2. Write a program to read two capital letters and display them on the next line in alphabetical order.

Answer:

```
.model small
.stack 100h
.data
  a db 'Enter 1st Capital Alphabet : $'
  b db 'Enter 2nd Capital Alphabet : $'
  c db 'Alphabetical Order : $'
.code

main proc
 mov ax,@data
 mov ds,ax

 mov ah,9
 lea dx,a
 int 21h

 mov ah,1
 int 21h
 mov bl,al

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

 mov ah,9
 lea dx,b
 int 21h

 mov ah,1
 int 21h
 mov bh,al

 cmp bl,bh
 jg L1

 L2:
  mov ah,2
```

```asm
    mov dl,13
    int 21h
    mov dl,10
    int 21h

    mov ah,9
    lea dx,c
    int 21h

    mov ah,2
    mov dl,bl
    int 21h
    mov dl,bh
    int 21h
    jmp exit

L1:
    mov ah,2
    mov dl,13
    int 21h
    mov dl,10
    int 21h

    mov ah,9
    lea dx,c
    int 21h

    mov ah,2
    mov dl,bh
    int 21h
    mov dl,bl
    int 21h

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