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ROLL NO: - 002311001086

SECTION: - IT A3 UG2

Assignment 3

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1. Write an Assembly Language Program to find the smallest number from a series of seven data bytes stored from DS: 0030H. Store the smallest number in DS: 0040H.

.model small

.stack 100h

.data

.code

main proc

       mov ax,@data

       mov ds,ax

       mov si, 0030h

       mov ah, 0ffh

       mov cx, 0007h

       cld

       L2:

       cmp al, [si]

       jc l1

       mov al, [si]

       L1:

       inc si

```
        LOOP L2
mov si, 0040h
mov [si],al
int 03h
mov ah, 4ch
main endp
end main
```

2. Write an Assembly Language Program to find the largest number from a series of 7 sixteen-bit numbers stored from DS: 0030H. Store the largest number in DS: 0040H.

```
.model small
.stack 100h
.data
.code
main proc
        mov ax,@data
        mov ds,ax
        mov si, 0030h
        mov ah, 00h
        mov cx, 0007h
        cld
        L2:
        cmp al, [si]
        jNc l1
        mov al, [si]
        L1:
        inc si
        LOOP L2
mov si, 0040h
```

mov [si],al

int 03h

mov ah, 4ch

main endp

end main

3. Write an Assembly Language Program to arrange a series of 7 data bytes stored from DS: 0030H in ascending order.

.model small

.stack 100h

.data

.code

main proc

       mov ax,@data

       mov ds,ax

       mov cl, 06h

       mov ah, 06h

       L1:

       mov si, 0030h

       L2:

       mov al, [si]

       inc si

       cmp al, [si]

       jc l3

       mov dl, [si]

       mov [si],al

       dec si

       mov [si], dl

       inc si

```
                l3:

                dec ah

                cmp ah , 00h

                jnz L2

                mov ah, cl

                Loop L1


int 03h

mov ah, 04ch

int 21h

main endp

end main
```

4. Write an Assembly Language Program to arrange a series of 7 sixteen-bits data stored from DS: 0030H in descending order.

```
.model small

.stack 100h

.data

.code

main proc

        mov ax,@data

        mov ds,ax

        mov cl, 06h

        mov ah, 06h


        L1:

        mov si, 0030h

        L2:

        mov al, [si]

        inc si
```

```
        cmp al, [si]

        jnc l3

        mov dl, [si]

        mov [si],al

        dec si

        mov [si], dl

        inc si

        l3:

        dec ah

        cmp ah , 00h

        jnz L2

        mov ah, cl

        Loop L1


int 03h

mov ah, 04ch

int 21h

main endp

end main
```

5. **Write an Assembly Language program to find the square of a number stored in DS: 0030H using LOOK-UP table. Assume that the LOOK-UP table is stored from DS: 0040H that contains the square of the numbers 0 to 9. Store the square value in DS: 0050H.**

DS:0100H   00

DS:0101H   01

DS:0102H   04

DS:0103H   09

DS:0104H   16

DS:0105H   25

DS:0106H   36

DS:0107H   49

DS:0108H   64

DS:0109H   81

```
.model small

.stack 100h

.data

.code

main proc

        mov ax,@data

        mov ds,ax

        mov si, 0030h

        MOV AL, [SI]

        mov bx, 0100h

        XLAT

        mov si, 0040h

        mov [si],al

int 03h

mov ah, 4ch

int 21h

main endp

end main
```