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Section: A1

Dept: INFORMATION TECHNOLOGY

Year: UG2 Sem 1

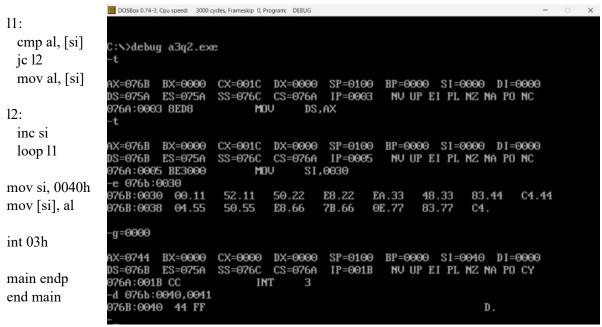
ASM lab assignment – 3

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 al, 0ffh
 mov cx, 0007h
11:
 cmp al, [si]
 jc 12
 mov al, [si]
12:
 inc si
                DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG
 loop 11
                      O Severe Errors
mov si, 0040h C:>>link a3q1.obj;
mov [si], al
               Microsoft (R) Overlay Linker Version 3.60
                Copyright (C) Microsoft Corp 1983-1987. All rights reserved.
int 03h
                C:\>debug a1q3.exe
main endp
end main
               AX=076B BX=0000 CX=0018 DX=0000 SP=0100 BP=0000 SI=0000 DI=0000
               DS=075A ES=075A SS=076C CS=076A IP=0003
                                                                NU UP EI PL NZ NA PO NC
               076A:0003 BED8
                                                 DS, AX
                е 076b:0030
               076B:0030 00.1
                                            50.3
                                                    E8.4
                                                            EA.5
                                                                     48.6
                                                                             83.7
                                                                                      C4.
                g=0000
                AX=076B
                         BX=0000
                                  CX=0000 DX=0000
                                                     SP=0100
                                                              BP=0000 SI=0038 DI=0048
                         ES=076B
                                  SS=076C CS=076A
               DS=076B
                                                     IP=0013
                                                               NU UP EI PL NZ NA PO NC
                076A:0013 CC
                                         INT
                -d 076b:0040,0040
                076B:0040 01
```

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 al, 0ffh
mov cx, 0007h
```



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
.code

main proc
mov ax, @data
mov ds, ax
mov bl, 06h

13:
mov si,0030h
mov cl,06h
```

```
11:
mov al,[si]
inc si
cmp al,[si]
              DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG
jc 12
                 >link a3q2.obj;
mov dl,[si]
              Microsoft (R) Overlay Linker Version 3.60
mov [si],al
              Copyright (C) Microsoft Corp 1983-1987. All rights reserved.
dec si
mov [si],dl
              ::\>debug a3q2.exe
inc si
12:
                                 CX=0029 DX=0000 SP=0100 BP=0000 SI=0000 DI=0000
              AX=076C
                       BX=0000
loop 11
              DS=075A ES=075A
                                 SS=076D CS=076A IP=0003
                                                                NU UP EI PL NZ NA PO NC
dec bl
              076A:0003 8ED8
                                       MOV
                                                DS,AX
              -e 076c:0030
cmp bl,00h
                                           FF.9
              076C:0030 3D.12
                                  FF.43
                                                    74.87
                                                            03.55
                                                                     E9.32
                                                                              ED.21
                                                                                       00.
jnz 13
               g = 00000
int 03h
                                 CX=0000 DX=0021
              AX=0755
                       BX=0000
                                                     SP=0100
                                                              BP=0000 SI=0036 DI=0000
mov ah,4ch
              DS=076C
                       ES=075A
                                 SS=076D
                                           CS=076A
                                                     IP=0024
                                                                NU UP EI PL ZR NA PE NC
              076A:0024 CC
                                        INT
int 21h
              -d 076c:0040,0046
              976C:0040 E4 40 50 8B C3 8C C2
-d 076c:0030,0036
                                                                                .eP....
main endp
              976C:0030 09 12 21 32 43 55 87
                                                                                ..!2CU.
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 es, ax
  mov ds, ax
  mov si, 0030h
  mov cx, 0006h
11:
  mov si, 0030h
  mov bx, cx
12:
  mov ax, [si]
  mov dx, [si + 2]
  cmp ax, dx
  jnc 13
```

```
O Severe Errors
  mov [si], dx
                   C:\>link a3q2.obj;
  mov [si + 2], ax
                   Microsoft (R) Overlay Linker Version 3.60
                   Copyright (C) Microsoft Corp 1983-1987. All rights reserved.
13:
  add si, 2
                   C:\>debug a3q2.exe
  dec bx
  jnz 12
                   AX=076C BX=0000 CX=002D DX=0000 SP=0100 BP=0000 SI=0000 DI=0000
                   DS=075A ES=075A SS=076D CS=076A IP=0003
                                                                NV UP EI PL NZ NA PO NC
  loop 11
                   076A:0003 BECO
                                          MOV
                                                  ES, AX
                   -e 076c:0030
                   076C:0030 3D.12
                                     FF.54
                                             FF.66
                                                     74.79
                                                             03.1
                                                                     E9.23
                                                                             ED.44
                                                                                     00.
  int 03h
                   g=0000
  mov ah, 4ch
  int 21h
                                    CX=0000
                                             DX=5EC4
                   AX=7966
                           BX=0000
                                                      SP=0100
                                                               BP=0000 SI=0032 DI=0000
                   DS=076C ES=076C
                                    SS=076D CS=076A
                                                      IP=0028
                                                                NU UP EI PL ZR NA PE NC
                   076A:00Z8 CC
                                           INT
main endp
                   -d 076c:0030,0036
                   076C:0030 66 79 C4 5E 12 54 8A
                                                                               fy.^.T.
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.

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 es, ax mov ds, ax mov si, 0030h			

DS:0100H

```
mov al, [si]
mov bx,0040h
xlat
mov si,0050h
mov [si],al
int 03h
mov ah, 4ch
int 21h
main endp
```

end main

```
C:\>debug assn3q5.exe
AX=076B BX=0000 CX=0018 DX=0000 SP=0100 BP=0000 SI=0000 DI=0000
DS=075A ES=075A SS=076C CS=076A IP=0003
                                            NU UP EI PL NZ NA PO NC
076A:0003 BED8
                      MOU
                              DS, AX
-e 076b:0100
076B:0100 FF.00
                  50.01
                          E8.04
                                 89.09
                                         69.16
                                                 83.25
                                                        6B.36
                                                                07.49
076B:0108 00.64
                  00.81
-e 076b:0030
076B:0030 00.05
-g=0000
AX=0725 BX=0100 CX=0018 DX=0000 SP=0100 BP=0000 SI=0040 DI=0000
DS=076B ES=075A SS=076C CS=076A IP=0013
                                           NU UP EI PL NZ NA PO NC
                       INT
                              3
076A:0013 CC
-d 076b:0040,0040
076B:0040 25
```