Ahsanullah University of Science & Technology

Department of Computer Science & Engineering

Course No   : CSE3108

Course Title   : Microprocessors Sessional

Assignment No   : 08

Date of Submission   : 06/09/21

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Submitted By-

Group   : A₂

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Section   : A

Question:- OB5E3

Answer:-
BEGINNING:
        MOV SI,0
        MOV DX,2000H
LOOPZVL:
        MOV AL,ZVL[SI]
        INC SI
        CMP SI,5
        LOOPNE LOOPZVL

MOV AL,01H
MOV DX,2030H

MOV AL,21H
MOV DX,2030H

MOV SI,0
MOV DX,2001H
LOOPZHDI:
        MOV AL,40H
        INC DX
        INC SI
        CMP SI,3
        LOOPNE LOOPZHDI

MOV AL,31H
MOV DX,2030H

MOV AL,39H
MOV DX,2030H

MOV SI,0
MOV DX,2004H

LOOPZVR:
        MOV AL,ZVR[SI]
        INC SI
        CMP SI,5
        LOOPNE LOOPZVR

MOV AL,30H
MOV DX,2030H

MOV AL,3FH
MOV DX,2030H

MOV AL,08H
MOV DX,2070H

MOV SI,0
MOV DX,2003H
LOOPZHU:
        MOV AL,41H
        DEC DX
        INC SI
        CMP SI,3
        LOOPNE LOOPZHU

MOV SI,0
MOV DX,2005H

```asm
LOOPBVL:
    MOV AL, BVL[SI]
    INC SI
    CMP SI, 7
    LOOPNE LOOPBVL

MOV AL, 20H
MOV DX, 2031H

MOV SI, 0
MOV DX, 2006H

LOOPBHU:
    MOV AL, 01H
    INC DX
    INC SI
    CMP SI, 3
    LOOPNE LOOPBHU

MOV AL, 30H
MOV DX, 2031H

MOV SI, 0
MOV DX, 2009H

LOOPBVR1:
    MOV AL, BVR1[SI]
    INC SI
    CMP SI, 2
    LOOPNE LOOPBVR1

MOV AL, 38H
MOV DX, 2031H

MOV SI, 0
MOV DX, 2008H

LOOPBHM:
    MOV AL, 09H
    DEC DX
    INC SI
    CMP SI, 3
    LOOPNE LOOPBHM

MOV AL, 3CH
MOV DX, 2031H

MOV AL, 7CH
MOV DX, 2031H

MOV SI, 0
MOV DX, 2009H

LOOPBVR2:
    MOV AL, BVR2[SI]
    INC SI
    CMP SI, 2
    LOOPNE LOOPBVR2

MOV AL, 0AH
MOV DX, 2070H

MOV SI, 0
MOV DX, 2008H

LOOPBHD:
    MOV AL, 49H
```

```asm
DEC DX
INC SI
CMP SI, 3
LOOPNE LOOPBHD

MOV SI, 0
MOV DX, 200EH

LOOPFHU:
    MOV AL, 01H
    DEC DX
    INC SI
    CMP SI, 5
    LOOPNE LOOPFHU
MOV AL, 01H
MOV DX, 2032H
MOV AL, 21H
MOV DX, 2032H
MOV SI, 0
MOV DX, 200AH

LOOPFVRI:
    MOV AL, FVRI[SI]
    INC SI
    CMP SI, 3
    LOOPNE LOOPFVRI

MOV AL, 61H
MOV DX, 2032H

MOV AL, 65H
MOV DX, 2032H
MOV SI, 0
MOV DX, 200BH

LOOPFHM:
    MOV AL, 09H
    INC DX
    INC SI
    CMP SI, 3
    LOOPNE LOOPFHM
MOV AL, 60H
MOV DX, 2032H
MOV SI, 0
MOV DX, 200EH

LOOPFVR2:
    MOV AL, FVR2[SI]
    INC SI
    CMP SI, 2
    LOOPNE LOOPFVR2

MOV SI, 0
MOV DX, 200DH

LOOPFHD:
    MOV AL, 49H
    DEC DX
    INC SI
    CMP SI, 3
    LOOPNE LOOPFHD
```

```
MOV AL, 4FH                        LOOPEHM:
MOV DX, 200AH                          MOV AL, 09H
MOV SI, 0                              INC DX
MOV DX, 200FH                          INC SI
LOOPEVL:                               CMP SI, 4
    MOV AL, BVL[SI]                    LOOPNE LOOPEHM
    OUT DX, AL
    INC SI                         MOV AL, 71H
    CMP SI, 7                      MOV DX, 2033H
    LOOPNE LOOPEVL
                                   MOV AL, 79H
MOV AL, 01H                        MOV DX, 2033H
MOV DX, 2033H
                                   MOV SI, 0
MOV SI, 0                          MOV DX, 2010H
MOV DX, 2010H
                                   LOOPEHD:
LOOPEHV:                               MOV AL, 49H
    MOV AL, 01H                        INC DX
    INC DX                             INC SI
    INC SI                             CMP SI, 4
    CMP SI, 4                          LOOPNE LOOPEHD
    LOOPNE LOOPEHV
                                   MOV SI, 0
MOV AL, 21H                        MOV DX, 2014H
MOV DX, 2033H
                                   LOOPTHV:
MOV AL, 61H                            MOV AL, 01H
MOV DX, 2033H                          INC DX
                                       INC SI
MOV SI, 0                              CMP SI, 4
MOV DX, 2010H                          LOOPNE LOOPTHV
```

```
MOV AL,01H
MOV DX,2034H

MOV AL,03H
MOV DX,2034H

MOV SI,0
MOV DX,2018H

LOOPTVR1:
        MOV AL,BVR1[SI]
        INC SI
        CMP SI,2
        LOOPNE LOOPTVR1

MOV AL,43H
MOV DX,2034H

MOV SI,0
MOV DX,2017H

LOOPTHM:
        MOV AL,09H
        DEC DX
        INC SI
        CMP SI,4
        LOOPNE LOOPTHM

MOV AL,47H
MOV DX,2034H

MOV SI,0
MOV DX,2018H

LOOPTVR2:

MOV AL,BVR2[SI]
INC SI
CMP SI,2
 LOOPNE LOOPTVR2

MOV AL,4FH
MOV DX,2034H

MOV AL,0BH
MOV DX,2070H

MOV SI,0
MOV DX,2017H

LOOPTHD:
        MOV AL,49H
        OUT DX,AL
        DEC DX
        INC SI
        CMP SI,4
        LOOPNE LOOPTHD

MOV SI,5
PUSH SI
SLIDESHOW:
        MOV BX,0
MAINLOOP:
        MOV SI,0
        MOV CX,25
        MOV DX,2018H
```

```asm
ROTATE:
    MOV AL,SH[BX][SI]
    INC BX DEC DX
    INC SI
    CMP SI, 25
    LOOPNE ROTATE

    ADD BX,25
    CMP BX,625
    JL MAINLOOP
    MOV DX,2070H
    MOV AL,00H

    MOV BX,0
    MOV DX, 2030H
SEVENZ:
    MOV AL,00H
    INC DX
    ADD BX,1
    CMP BX, 5
    JL SEVENZ

    MOV DX,2070H
    MOV AL,0BH

    MOV BX,0
    MOV BX,2030H
SEVENBLINK:
    MOV AL,SEVENLED[BX][SI]
    INC DX

    ADD BX,1
    CMP BX,5
    JL SEVENBLINK

    POP SI
    DEC SI
    PUSH SI
    CMP SI,0
    JNZ SLIDESHOW

MOV AL,00H
MOV DX, 2070H

MOV CX,5
MOV DX, 2030H

SEVENZERO:
    MOV AL,00H
    INC DX
    DEC CX
    CMP CX,0
    JNZ SEVENZERO

MOV CX,25
MOV DX, 2000H

DOTZERO:
    MOV AL,00H
    INC DX
    DEC CX
    CMP CX,0
    JNZ DOTZERO
```