Ahsanullah University of Science and Technology (AUST)

Department of Computer Science and Engineering

Course No : CSE3108

Course Title: Microprocessor Lab Assignment

No: 2

Set No: 8

Submitted To:

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Section : B2

Part 1:

Question: AB2

S SEGMENT PARA PUBLIC 'CODE'

ASSUME CS: L

ORG 1000H

START:

```
        ;Control Register turn on

        MOV AL,80H

        OUT 1FH,AL


        MOV SI,OFFSET DATA

        MOV BX,14H

        TOP:

        MOV AL,BYTE PTR CS:[SI]

        OUT 19H,AL

        ;Delay

        MOV CX,0FFH

        L1: LOOP L1

        MOV CX,0FFH

        L2: LOOP L2

        MOV CX,0FFH
```

```
L3: LOOP L3

MOV CX,0FFH

L4: LOOP L4


INC SI

DEC BX

CMP BX, 0000H

JE EXIT

JMP TOP


DATA:

        DB 0FEH     ; A

        DB 0DEH

        DB 0CEH

        DB 08EH

        DB 08CH

        DB 088H

        DB 0FFH     ; blank

        DB 0DFH     ; B

        DB 0DEH

        DB 0DCH

        DB 09CH

        DB 098H

        DB 090H

        DB 080H

        DB 0FFH     ; blank
```

```
                    DB 0FEH     ; 2

                    DB 0FCH

                    DB 0BCH

                    DB 0ACH

                    DB 0A4H

        EXIT:

S ENDS

        END START
```

Part 2:

Question: (R1+R2(ON))-G(ON)-Y(ON)

L SEGMENT PARA PUBLIC 'CODE'

ASSUME CS: L

ORG 1000H

START:

        ;Control Register turn on

        MOV AL,80H

        OUT 1FH,AL

        ;segment address forcefully off

```
MOV AL,0FFH
OUT 19H,AL


MOV SI,OFFSET DATA
MOV BX,03H


TOP:
MOV AL,BYTE PTR CS:[SI]
OUT 1BH,AL
;Delay
MOV CX,0FFH
L1: LOOP L1
MOV CX,0FFH
L2: LOOP L2
MOV CX,0FFH
L3: LOOP L3
MOV CX,0FFH
L4: LOOP L4


INC SI
DEC BX
CMP BX, 0000H
JE EXIT
JMP TOP


DATA:
```

DB 09H   ; (R1+R2(ON))

DB 0BH   ; (R1+R2(ON))-G(ON)

DB 0FH   ; (R1+R2(ON))-G(ON)-Y(ON)

EXIT:

S ENDS

END START

Part 3:

Question: Set of Dot Matrix – 8

DM SEGMENT PARA PUBLIC 'CODE'

ASSUME CS: DM

ORG 1000H

START:

MOV AL,80H

OUT 1FH,AL

L1:

MOV AL,7FH

OUT 18H,AL   ;PORT A

MOV AL,FFH

OUT 1AH,AL   ;PORT B

MOV AL,01H

OUT 1CH,AL   ;PORT C

MOV CX,0FFFFH   ;for delay

L0:LOOP L0

```
MOV AL,BFH

OUT 18H,AL      ;PORT A

MOV AL,FFH

OUT 1AH,AL      ;PORT B

MOV AL,01H

OUT 1CH,AL      ;PORT C

MOV CX,0FFFFH   ;for delay

L1:LOOP L1


MOV AL,DFH

OUT 18H,AL         ;PORT A

MOV AL,FFH

OUT 1AH,AL         ;PORT B

MOV AL,01H

OUT 1CH,AL         ;PORT C

MOV CX,0FFFFH    ;for delay

L2:LOOP L2


MOV AL,EFH

OUT 18H,AL         ;PORT A

MOV AL,FFH

OUT 1AH,AL         ;PORT B

MOV AL,01H

OUT 1CH,AL         ;PORT C

MOV CX,0FFFFH    ;for delay

L3:LOOP L3
```

```
        MOV AL,F7H

        OUT 18H,AL        ;PORT A

        MOV AL,FFH

        OUT 1AH,AL        ;PORT B

        MOV AL,01H

        OUT 1CH,AL        ;PORT C

        MOV CX,0FFFFH     ;for delay

        L4:LOOP L4


        MOV AL,FBH

        OUT 18H,AL        ;PORT A

        MOV AL,FFH

        OUT 1AH,AL        ;PORT B

        MOV AL,01H

        OUT 1CH,AL        ;PORT C

        MOV CX,0FFFFH     ;for delay

        L5:LOOP L5


        MOV AL,FDH

        OUT 18H,AL        ;PORT A

        MOV AL,FFH

        OUT 1AH,AL        ;PORT B

        MOV AL,01H

        OUT 1CH,AL        ;PORT C

        MOV CX,0FFFFH     ;for delay

        L6:LOOP L6
```

```
MOV AL,EFH

OUT 18H,AL        ;PORT A

MOV AL,FFH

OUT 1AH,AL        ;PORT B

MOV AL,01H

OUT 1CH,AL        ;PORT C

MOV CX,0FFFFH    ;for delay

L7:LOOP L7


MOV AL,FEH

OUT 18H,AL        ;PORT A

MOV AL,FFH

OUT 1AH,AL        ;PORT B

MOV AL,02H

OUT 1CH,AL        ;PORT C

MOV CX,0FFFFH    ;for delay

L8:LOOP L8


MOV AL,FEH

OUT 18H,AL        ;PORT A

MOV AL,FFH

OUT 1AH,AL        ;PORT B

MOV AL,04H

OUT 1CH,AL        ;PORT C

MOV CX,0FFFFH    ;for delay

L9:LOOP L9
```

```
MOV AL,FEH

OUT 18H,AL          ;PORT A

MOV AL,FFH

OUT 1AH,AL          ;PORT B

MOV AL,08H

OUT 1CH,AL          ;PORT C

MOV CX,0FFFFH    ;for delay

L10:LOOP L10


MOV AL,FEH

OUT 18H,AL          ;PORT A

MOV AL,FFH

OUT 1AH,AL          ;PORT B

MOV AL,10H

OUT 1CH,AL          ;PORT C

MOV CX,0FFFFH     ;for delay

L11:LOOP L11


MOV AL,FEH

OUT 18H,AL          ;PORT A

MOV AL,FFH

OUT 1AH,AL          ;PORT B

MOV AL,20H

OUT 1CH,AL          ;PORT C

MOV CX,0FFFFH    ;for delay

L12:LOOP L12
```

```asm
        MOV AL,FEH
        OUT 18H,AL      ;PORT A
        MOV AL,FFH
        OUT 1AH,AL      ;PORT B
        MOV AL,40H
        OUT 1CH,AL      ;PORT C
        MOV CX,0FFFFH   ;for delay
L13:LOOP L13


        MOV AL,FEH
        OUT 18H,AL      ;PORT A
        MOV AL,FFH
        OUT 1AH,AL      ;PORT B
        MOV AL,80H
        OUT 1CH,AL      ;PORT C
        MOV CX,0FFFFH   ;for delay
L14:LOOP L14


        MOV AL,FDH
        OUT 18H,AL      ;PORT A
        MOV AL,FFH
        OUT 1AH,AL      ;PORT B
        MOV AL,80H
        OUT 1CH,AL      ;PORT C
        MOV CX,0FFFFH   ;for delay
L15:LOOP L15
```

```
MOV AL,FBH

OUT 18H,AL          ;PORT A

MOV AL,FFH

OUT 1AH,AL          ;PORT B

MOV AL,80H

OUT 1CH,AL          ;PORT C

MOV CX,0FFFFH       ;for delay

L16:LOOP L16


MOV AL,F7H

OUT 18H,AL          ;PORT A

MOV AL,FFH

OUT 1AH,AL          ;PORT B

MOV AL,80H

OUT 1CH,AL          ;PORT C

MOV CX,0FFFFH       ;for delay

L17:LOOP L17


MOV AL,F7H

OUT 18H,AL          ;PORT A

MOV AL,FFH

OUT 1AH,AL          ;PORT B

MOV AL,40H

OUT 1CH,AL          ;PORT C

MOV CX,0FFFFH       ;for delay

L18:LOOP L18
```

```
MOV AL,F7H

OUT 18H,AL         ;PORT A

MOV AL,FFH

OUT 1AH,AL         ;PORT B

MOV AL,20H

OUT 1CH,AL         ;PORT C

MOV CX,0FFFFH    ;for delay

L19:LOOP L19


MOV AL,F7H

OUT 18H,AL         ;PORT A

MOV AL,FFH

OUT 1AH,AL         ;PORT B

MOV AL,10H

OUT 1CH,AL         ;PORT C

MOV CX,0FFFFH    ;for delay

L20:LOOP L20


MOV AL,F7H

OUT 18H,AL         ;PORT A

MOV AL,FFH

OUT 1AH,AL         ;PORT B

MOV AL,08H

OUT 1CH,AL         ;PORT C

MOV CX,0FFFFH    ;for delay

L21:LOOP L21
```

```
MOV AL,F7H
OUT 18H,AL          ;PORT A
MOV AL,FFH
OUT 1AH,AL           ;PORT B
MOV AL,04H
OUT 1CH,AL          ;PORT C
MOV CX,0FFFFH       ;for delay
L22:LOOP L22


MOV AL,EFH
OUT 18H,AL          ;PORT A
MOV AL,FFH
OUT 1AH,AL           ;PORT B
MOV AL,04H
OUT 1CH,AL          ;PORT C
MOV CX,0FFFFH       ;for delay
L23:LOOP L23


MOV AL,DFH
OUT 18H,AL          ;PORT A
MOV AL,FFH
OUT 1AH,AL          ;PORT B
MOV AL,04H
OUT 1CH,AL          ;PORT C
MOV CX,0FFFFH       ;for delay
L24:LOOP L24
```

```
MOV AL,BFH

OUT 18H,AL            ;PORT A

MOV AL,FFH

OUT 1AH,AL            ;PORT B

MOV AL,04H

OUT 1CH,AL             ;PORT C

MOV CX,0FFFFH         ;for delay

L25:LOOP L25


MOV AL,7FH

OUT 18H,AL            ;PORT A

MOV AL,FFH

OUT 1AH,AL             ;PORT B

MOV AL,04H

OUT 1CH,AL            ;PORT C

MOV CX,0FFFFH        ;for delay

L26:LOOP L26


MOV AL,7FH

OUT 18H,AL            ;PORT A

MOV AL,FFH

OUT 1AH,AL            ;PORT B

MOV AL,02H

OUT 1CH,AL            ;PORT C

MOV CX,0FFFFH        ;for delay

L27:LOOP L27
```

DM ENDS

END START