Ahsanullah University of Science&Technology

Department of Computer Science & Engineering

Course No: CSE3108
Course Title: Microprocessors Lab
Assignment No: 03

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Section: A

Experiment No: 01

Experiment Name: Write an assembly code to display 1F2 in Seven Segment Display(SSD) and glow R1(ON)-Y(ON)-Y(OFF)-(R2+G(ON)) in LED Display respectively using an array.

```
SA SEGMENT PARA PUBLIC 'CODE'
ASSUME CS: SA
ORG 1000H

START:
;control register turn on
MOV AL,80H
OUT 1FH,AL

TOP1:
MOV SI,OFFSET DATA
MOV BX,0BH
JMP TOP

TOP2:
;segment address forcefully off
MOV AL,0FFH
OUT 19H,AL

MOV CX,04H
JMP  TOP3

TOP:
MOV AL,BYTE PTR CS:[SI]
OUT 19H,AL
```

```
;for delay
MOV CX,0FFFFH
L1:LOOP L1

INC SI
DEC BX
CMP BX,0000H
JE  TOP2
JMP TOP

TOP3:
MOV AL,BYTE PTR CS:[SI]
OUT 1BH,AL

;for delay
L2:
MOV BX,0FFFFH
CMP  BX,0000H
JNE  L2


INC SI
DEC,CX
CMP CX,0000H
JE EXIT
JMP  TOP3



DATA:
DB 0FDH
DB 0FBH
```

```
DB 0EFH
DB 0DFH
DB 0FEH
DB 0BFH
DB 0FEH
DB 0FDH
DB 0BFH
DB 0DFH
DB 0EFH

DB 01H
DB 05H
DB 01H
DB 0BH

EXIT:
SA ENDS
END START
```

Experiment No: 02

Experiment Name: Write an assembly code to glow dots on Dot Matrix Display Diamond shape in orange color using array.

```
DM SEGMENT PARA PUBLIC 'CODE'
ASSUME CS: DM
ORG 1000H
START:
MOV AL,80H
OUT 1FH,AL
```

```
TOP1:
MOV  SI, OFFSET DATA
MOV BX , 03H

TOP:

;PORT A
 MOV AL, BYTE  PTR  CS:[SI]
OUT 18H, AL

INC  SI
DEC  BX

;PORT B
MOV AL, BYTE  PTR CS:[SI]
OUT  1AH, AL

INC  SI
DEC  BX

;PORT  C
MOV AL, BYTE  PTR CS:[SI]
OUT  1CH, AL

INC  SI
DEC  BX

 ;for delay
 MOV CX,0FFFFH
 L0:LOOP L0
```

```
INC SI
DEC  BX
CMP  BX, 0000H
JE  TOP1
JMP TOP

DATA:
DB FBH
DB FBH
DB 08H

DB  F7H
DB  F7H
DB  04H

DB  EFH
DB  EFH
DB  02H

DB  DFH
DB  DFH
DB  04H

DB   BFH
DB  BFH
DB  08H

DB  DFH
DB  DFH
DB  10H
```

```
DB  EFH
DB  EFH
DB  20H

DB  F7H
DB  F7H
DB  10H

DM ENDS
END START
```