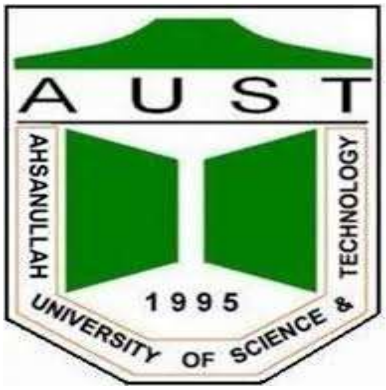

Ahsanullah University of Science and Technology (AUST)

Department of Computer Science and Engineering

Course No : CSE3108

Course Title: Microprocessor Lab

Assignment No: 3

Set No: 8

Submitted To:

Farzad Ahmed

Lecturer in CSE, AUST

Submitted By:

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Section : B2

Part 1:

Question: Set of Dot Matrix – 8 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, 054H

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
        ;Delay
        MOV CX, 0FFH
        L3:LOOP L3

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

DATA:
         DB 07FH
         DB 0FFH        ;1
         DB 001H

         DB OBFH
         DB 0FFH        ;2
         DB 001H

         DB 0DFH
         DB 0FFH        ;3
```

```
DB 001H

DB 0EFH
DB 0FFH          ;4
DB 001H

DB 0F7H
DB 0FFH          ;5
DB 001H

DB 0FBH
DB 0FFH          ;6
DB 001H

DB 0FDH
DB 0FFH          ;7
DB 001H

DB 0EFH
DB 0FFH          ;8
DB 001H

DB 0FEH
DB 0FFH          ;9
```

```
 DB 002H


DB 0FEH
DB 0FFH          ;10
DB 004H

DB 0FEH
DB 0FFH          ;11
DB 008H

DB 0FEH
DB 0FFH          ;12
DB 010H

DB 0FEH
DB 0FFH          ;13
DB 020H

DB 0FEH
DB 0FFH          ;14
DB 040H

DB 0FEH
DB 0FFH          ;15
```

```
DB 080H

DB 0FDH
DB 0FFH          ;16
DB 080H

DB 0FBH
DB 0FFH          ;17
DB 080H

DB 0F7H
DB 0FFH          ;18
DB 080H

DB 0F7H
DB 0FFH          ;19
DB 040H

DB 0F7H
DB 0FFH          ;20
DB 020H

DB 0F7H
DB 0FFH          ;21
```

```
DB 010H

DB 0F7H
DB 0FFH          ;22
DB 008H

DB 0F7H
DB 0FFH          ;23
DB 004H

DB 0EFH
DB 0FFH           ;24
DB 004H

DB 0DFH
DB 0FFH          ;25
DB 004H

DB 0BFH
DB 0FFH          ;26
DB 004H

DB 07FH
DB 0FFH         ;27
```

```
    DB 004H


    DB 07FH
    DB 0FFH          ;28
    DB 002H
DM ENDS
    END START
```

Part 2:

Question: AB2, (R1+R2(ON))-G(ON)-Y(ON).

```
S SEGMENT PARA PUBLIC 'CODE'
ASSUME CS:SA
ORG 1000H
START:
  ;control register turn on
  MOV AL,80H
  OUT 1FH,AL

TOP:

  MOV SI,OFFSET DATA
  MOV BX,17H
```

```
TOP1:


 ;SEGMENT turn on
   MOV AL,BYTE PTR CS:[SI]
   OUT 19H,AL
 ;for delay
   MOV CX,0FFFFH
   L1:LOOP L1
   DEC BX
   INC SI
   CMP BX,0000H
   JE TOP2
   JMP TOP1

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

 ;LED turn on
   MOV AL,BYTE PTR CS:[SI]
   OUT 1BH,AL
 ;for delay
   MOV CX,0FFFFH
   L2:LOOP L2
```

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

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


        DB 09H ;        (R1+R2(ON))
        DB 0BH ;        (R1+R2(ON))-G(ON)
        DB 0FH ;        (R1+R2(ON))-G(ON)-Y(ON)
S ENDS
    END START
```