Ahsanullah University of Science & Technology
Department of Computer Science & Engineering

Course No   : CSE3108

Course Title   : Microprocessors Sessional

Assignment No   : 06

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Submitted By-

Group   : B_2

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Section : B

Question : Draw the given shape in dot matrix display and glow the four LEDs according to the initials.

For "Plus sign"   P ⟹ Glow Red 2

S ⟹ Glow Red 1

Answer :

```
DSEG    SEGMENT  'DATA'

DSEG    ENDS

SSEG    SEGMENT  STACK  'STACK'

        DW          100h     DUP (?)

SSEG    ENDS

CSEG    SEGMENT  'CODE'


START   PROC   FAR

        PUSH   DS

        MOV    AX, 0

        PUSH   AX
```

```asm
        MOV  AX, DSEG
        MOV  DS, AX
        MOV  ES, AX

; DOT  MATRIX

        MOV  DX, 2003H
        MOV  AL, 0000 0001b
        OUT  DX, AL

        MOV  CX, 100H
L1: LOOP L1

        MOV  DX, 2003H
        MOV  AL, 0000 0011b
        OUT  DX, AL

        MOV  CX, 100H
L2: LOOP L2

        MOV  DX, 2003H
        MOV  AL, 0000 0111b
        OUT  DX, AL

        MOV  CX, 100H
L3 : LOOP  L3
```

```asm
MOV DX, 2002H
MOV AL, 0000 0100b
OUT DX, AL

MOV CX, 100H
L4: LOOP L4


MOV DX, 2001H
MOV AL, 0000 0100b
OUT DX, AL

MOV CX, 100H
L5: LOOP L5


MOV DX, 2001H
MOV AL, 0000 1100b
OUT DX, AL

MOV CX, 100H
L6: LOOP L6


MOV DX, 2001H
MOV AL, 0001 1100b
OUT DX, AL
```

```
MOV CX, 100H
L7 : LOOP L7

MOV DX, 2002H
MOV AL, 0001 0100b
OUT DX, AL

MOV CX, 100H
L8 : LOOP L8

MOV DX, 2003H
MOV AL, 0001 0111b
OUT DX, AL

MOV CX, 100H
L9 : LOOP L9

MOV DX, 2003H
MOV AL, 0011 0111b
OUT DX, AL

MOV CX, 100H
L10 : LOOP L10
```

```
MOV DX, 2003H
MOV AL, 0111 0111b
OUT DX, AL

MOV CX, 100H
L11 : LOOP L11


MOV DX, 2004H
MOV AL, 0100 0000b
OUT DX, AL

MOV CX, 100H
L12 : LOOP L12


MOV DX, 2005H
MOV AL, 0100 0000b
OUT DX, AL

MOV CX, 100H
L13 : LOOP L13


MOV DX, 2005H
MOV AL, 0110 0000b
OUT DX, AL
```

```
MOV  CX, 100H

L14 : LOOP  L14


MOV  DX, 2005H

MOV  AL,  0111 0000b

OUT  DX, AL


MOV  CX, 100H

L15: LOOP L15


MOV  DX, 2006H

MOV  AL, 0001 0000b

OUT  DX, AL


MOV  CX, 100H

L16 : LOOP  L16


MOV  DX, 2007H

MOV  AL, 0001 0000b

OUT  DX, AL


MOV  CX, 100H

L17 : LOOP  L17
```

```
MOV DX, 2007 H
MOV AL, 0001 1000b
OUT DX, AL

MOV CX, 100H
L18 : LOOP L18


MOV DX, 2007 H
MOV AL, 0001 1100b
OUT DX, AL

MOV CX, 100H
L19 : LOOP L19


MOV DX, 2006 H
MOV AL, 0001 0100b
OUT DX, AL

MOV CX, 100H
L20 : LOOP L20


MOV DX, 2005 H
MOV AL, 0111 0100b
OUT DX, AL
```

```asm
MOV  CX, 100H
L21: LOOP L21

MOV  DX, 2005H
MOV  AL, 0111 0110b
OUT  DX, AL

MOV  CX, 100H
L22: LOOP L22

MOV  DX, 2005H
MOV  AL, 0111 0111b
OUT  DX, AL

MOV  CX, 100H
L23: LOOP L23

MOV  DX, 2004H
MOV  AL, 0100 0001b
OUT  DX, AL

MOV  CX, 100H
L24: LOOP L24
```

```
        MOV   DX, 2070H              ;   R2

        MOV   AL, 0000 1000 b

        OUT   DX, AL


          MOV   CX, 100H

          L25: LOOP L25


          MOV   DX, 2070H            ;   R1

          MOV   AL, 0000 1001 b

          OUT   DX, AL


            RET

START   ENDP

CSEG    ENDS

            END   START
```