ASSIGNMENT-4

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SECTION:A2

COURSE NO:CSE 3108

COURSE TITLE:MICROPROCCESSOR LAB

1.AN ASSEMBLY CODE TO DRAW THE GIVEN SHAPE IN DOT MATIX DISPLAY.THE ROW NUMBER OF THE GLOWING DOTS WILL APPEAR ON SEVEN SEGMENT DISPLAY

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

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

TOP1:
MOV SI,OFFSET DATA
MOV BX,6CH

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

;seven segment row
MOV AL,BYTE PTR CS:[SI]
OUT 19H,AL
INC SI
DEC BX

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

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

;for delay
MOV CX,0FFFFH
L2:LOOP L2
```

```
CMP BX,0000H
JE TOP1
JMP TOP

DATA:
DB 7FH
DB FFH
DB 01H
DB B8H

DB BFH
DB FFH
DB 01H
DB 82H

DB DFH
DB FFH
DB 01H
DB 92H

DB EFH
DB FFH
DB 01H
DB 93H

DB F7H
DB FFH
DB 01H
DB B0H
```

```
DB FBH
DB FFH
DB 01H
DB A4H

DB FDH
DB FFH
DB 01H
DB F9H

DB FFH
DB FEH
DB 01H
DB C0H

DB FFH
DB FEH
DB 02H
DB C0H

DB FFH
DB FEH
DB 04H
DB C0H

DB FFH
DB FEH
DB 08H
```

```
DB C0H
DB FFH
DB FEH
DB 10H
DB C0H

DB FFH
DB FEH
DB 20H
DB C0H

DB FFH
DB FEH
DB 40H
DB C0H

DB FFH
DB FEH
DB 80H
DB C0H

DB FDH
DB FDH
DB 80H
DB F9

DB FBH
DB FBH
DB 80H
```

```
DB A4H

DB FBH
DB FBH
DB 40H
DB A4H

DB FBH
DB FBH
DB 20H
DB A4H

DB FBH
DB FBH
DB 10H
DB A4H

DB FBH
DB FBH
DB 08H
DB A4H

DB 0FBH
DB FBH
DB 04H
DB A4H

DB F7H
DB F7H
```

```
DB 04H
DB B0H

DB EFH
DB EFH
DB 04H
DB 93H

DB BFH
DB BFH
DB 04H
DB 92H

DB 7FH
DB 7FH
DB 04H
DB 82H

DB 7FH
DB 7FH
DB 02H
DB B8H


EXIT:
LA ENDS
END START
```

2.AN ASSEMBLY CODE TO DRAW THE GIVEN SHAPE IN DOT MATIX DISPLAY. THE COLOUR OF THE GLOWING DOTS WILL GLOW ON LED DISPLAY.

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

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

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

TOP1:
MOV SI,OFFSET DATA
MOV BX,6CH

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

;led display
MOV AL,BYTE PTR CS:[SI]
OUT 1BH,AL
INC SI
DEC BX

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

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

;for delay
```

```
MOV CX,0FFFFH
L2:LOOP L2


CMP BX,0000H
JE TOP1
JMP TOP

DATA:
DB 7FH
DB FFH
DB 01H
DB 02H

DB BFH
DB FFH
DB 01H
DB 02H

DB DFH
DB FFH
DB 01H
DB 02H

DB EFH
DB FFH
DB 01H
DB 02H
```

```
DB F7H
DB FFH
DB 01H
DB 02H

DB FBH
DB FFH
DB 01H
DB 02H

DB FDH
DB FFH
DB 01H
DB 02H

DB FFH
DB FEH
DB 01H
DB 01H

DB FFH
DB FEH
DB 02H
DB 01H

DB FFH
DB FEH
DB 04H
DB 01H
```

```
DB FFH
DB FEH
DB 08H
DB 01H

DB FFH
DB FEH
DB 10H
DB 01H

DB FFH
DB FEH
DB 20H
DB 01H

DB FFH
DB FEH
DB 40H
DB 01H

DB FFH
DB FEH
DB 80H
DB 01H

DB FDH
DB FDH
DB 80H
```

```
DB 0CH

DB FBH
DB FBH
DB 80H
DB 0CH

DB FBH
DB FBH
DB 40H
DB 0CH

DB FBH
DB FBH
DB 20H
DB 0CH

DB FBH
DB FBH
DB 10H
DB 0CH

DB FBH
DB FBH
DB 08H
DB 0CH

DB 0FBH
DB FBH
```

```
DB 04H
DB 0CH

DB F7H
DB F7H
DB 04H
DB 0CH

DB EFH
DB EFH
DB 04H
DB 0CH

DB BFH
DB BFH
DB 04H
DB 0CH

DB 7FH
DB 7FH
DB 04H
DB 0CH

DB 7FH
DB 7FH
DB 02H
DB 0CH
```

EXIT:

LA ENDS

END START