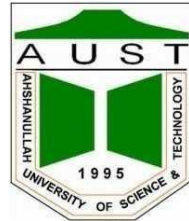


Ahsanullah University of Science & Technology

Department of Computer Science & Engineering

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Lab Assignment Microprocessors lab CSE 3108

Assignment No: 03

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Section: A

Question 01: Write an assembly code to glow dots on Dot Matrix Display using Array.

Answer:

DM SEGMENT PARA PUBLIC 'CODE'

ASSUME CS: DM

ORG 1000H

START:

MOV AL,80H

OUT 1FH,AL

TOP1:

MOV SI, OFFSET DATA

MOV BX, 0CH

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 FFH
DB BFH
DB 08H

DB FFH
DB DFH
DB 14H

DB FFH
DB EFH
DB 22H

DB FFH
DB F7H
DB 1CH

DM ENDS
END START

Question 02: Write an assembly code to display BC2 in Seven Segment Display(SSD) and glow R1(ON)-R1(OFF)-(Y+G(ON))-R2(ON) in LED Display respectively using an array.

Answer:

```
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,16H
```

```
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 0DFH
DB 0DEH    ;B
DB 0DCH
DB 09CH
DB 098H
DB 090H
DB 080H
DB 0FFH
```

```
DB 0FEH    ; C
DB 0DEH
DB 0CEH
DB 0C6H
DB 0FFH
```

```
DB 0FEH ; 2
DB 0FCH
DB 0BCH
DB 0ACH
DB 0A4H
```

```
DB 01H ;R1 ON
DB 00H ;R1 OFF
```

DB 06H ;Y+G ON
DB 0EH ;Y+G+R2

S ENDS
END START