



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

Course No : CSE3108

Course Title : Microprocessors Sessional

Assignment No : Bonus Assignment

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Submitted By-

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Question : You have to show your name in the dot matrix display and last three digit of your id in seven segment display. The dots will glow one by one according the way we write a character and the segments also glow one by one according the way we are write. "TASNIMUL" & "142"

Answer :

DSEG SEGMENT 'DATA'

t1 DB 01H, 01H, 01H, 01H, 01H

t2 DB 03H, 07H, 0FH, 1FH, 3FH, 7FH

a1 DB 40H, 60H, 70H, 78H, 7CH, 7EH

a2 DB 01H, 01H, 01H

a3 DB 02H, 06H, 0EH, 1EH, 3EH, 7EH

a4 DB 09H, 09H, 09H

s1 DB 02H, 01H, 01H, 01H, 02H

s2 DB 06H, 09H, 09H, 09H, 12H

s3 DB 32H, 49H, 49H, 49H, 26H

| | | |
|------|----|-----------------------------------|
| n1 | DB | 40H, 60H, 70H, 78H, 7CH, 7EH, 7FH |
| n2 | DB | 02H, 04H, 08H |
| n3 | DB | 40H, 60H, 70H, 78H, 7CH, 7EH, 7FH |
| i1 | DB | 01H, 01H, 01H |
| i2 | DB | 03H, 07H, 0FH, 1FH, 3FH |
| i3 | DB | 41H, 7FH, 41H |
| m1 | DB | 40H, 60H, 70H, 78H, 7CH, 7EH, 7FH |
| m2 | DB | 02H, 04H, 02H |
| m3 | DB | 01H, 03H, 07H, 0FH, 1FH, 3FH, 7FH |
| u1 | DB | 01H, 03H, 07H, 0FH, 1FH, 3FH |
| u2 | DB | 40H, 40H, 40H |
| u3 | DB | 20H, 30H, 38H, 3CH, 3EH, 3FH |
| l.1 | DB | 01H, 03H, 07H, 0FH, 1FH, 3FH, 7FH |
| l2 | DB | 40H, 40H, 40H, 40H |
| SSD1 | DB | 02H, 06H |
| SSD2 | DB | 20H, 60H, 62H, 66H |
| SSD3 | DB | 01H, 03H, 43H, 53H, 5BH |

DSEG ENDS

SSEG SEGMENT STACK 'STACK'

DW 100h DUP(?)

SSEG ENDS

CSEG SEGMENT 'CODE'

START PROC FAR

PUSH DS

MOV AX, 0

PUSH AX

MOV AX, DSEG

MOV DS, AX

MOV ES, AX

; DOT MATRIX

; T

MOV DX, 2000H

MOV CX, 05H

@T1:

MOV AL, t1[SI]

OUT DX, AL

INC SI

INC DX

LOOP @T1

MOV DX, 2002H

MOV CX, 06H

MOV SI, 0

@T2:

MOV AL, t2[SI]

OUT DX, AL

INC SI

LOOPNE @T2

; A

MOV DX, 2005H

MOV CX, 6

MOV SI, 0

@A1 :

MOV AL, a1[SI]

OUT DX, AL

INC SI

LOOPNE @A1

MOV DX, 2006H

MOV CX, 3

MOV SI, 0

@A2 :

MOV AL, a2[SI]

OUT DX, AL

INC SI

LOOP @A2

MOV DX, 2009H

MOV CX, 6

MOV SI, 0

@A3 :

MOV AL, a3[SI]

OUT DX, AL

INC SI

LOOPNE @A3

MOV DX, 2006H

MOV CX, 3

MOV SI, 0

@A4 :

MOV AL, a4[SI]

OUT DX, AL

INC SI

INC DX

LOOP @A4

; S

MOV DX, 200EH

MOV CX, 5

MOV SI, 0

@ S1 :

MOV AL, s1 [SI]

OUT DX, AL

INC SI

DEC DX

LOOP @S1

MOV DX, 200AH

MOV CX, 5

MOV SI, 0

@ S2 :

MOV AL, s2 [SI]

OUT DX, AL

INC SI

INC DX

LOOP @S2

MOV DX, 200EH

MOV CX, 5

MOV SI, 0

@ S3 :

MOV AL, s3 [SI]

OUT DX, AL

INC SI

DEC DX

LOOP @S3

;N

MOV DX, 200FH

MOV CX, 7

MOV SI, 0

@ N1 :

MOV AL, n1 [SI]

OUT DX, AL

INC SI

LOOPNE @N1

MOV DX, 2010H

MOV CX, 3

MOV SI, 0

@ N2 :

MOV AL, n2 [SI]

OUT DX, AL

INC SI

INC DX

LOOP @ N2

MOV DX, 2013H

MOV CX, 7

MOV SI, 0

@ N3 :

MOV AL, n3 [SI]

OUT DX, AL

INC SI

LOOPNE @ N3

; I

MOV DX, 2015H

MOV CX, 3

MOV SI, 0

@ I1 :

MOV AL, i1 [SI]

OUT DX, AL

INC SI

INC DX

LOOP @ I1

MOV DX, 2016H

MOV CX, 5

MOV SI, 0

@ I2 :

MOV AL, i2 [SI]

OUT DX, AL

INC SI

LOOP @ I2

MOV DX, 2015H

MOV CX, 3

MOV SI, 0

@ I3 :

MOV AL, I3 [SI]

OUT DX, AL

INC SI

INC DX

LOOP @ I3

; M

MOV DX, 2019H

MOV CX, 7

MOV SI, 0

@ M1 :

MOV AL, M1 [SI]

OUT DX, AL

INC SI

LOOPNE @ M1

MOV DX, 201AH

MOV CX, 3

MOV SI, 0

@ M2 :

MOV AL, M2 [SI]

OUT DX, AL

INC SI

INC DX

LOOP @ M2

MOV DX, 201DH

MOV CX, 7

MOV SI, 0

@ M3 :

MOV AL, M3 [SI]

OUT DX, AL

INC SI

INC DX

LOOPNE @ M3

; U

MOV DX, 201EH

MOV CX, 6

MOV SI, 0

@ U1 :

MOV AL, U1 [SI]

OUT DX, AL

INC SI

LOOPNE @U1

MOV DX, 201FH

MOV CX, 3

MOV SI, 0

@ U2 :

MOV AL, U2 [SI]

OUT DX, AL

INC SI

INC DX

LOOP @U2

MOV DX, 2022H

MOV CX, 6

MOV SI, 0

@ U3 :

MOV AL, U3 [SI]

OUT DX, AL

INC SI

LOOPNE @U3

; L

MOV DX, 2023H

MOV CX, 7

MOV SI, 0

@L1 :

MOV AL, L1 [SI]

OUT DX, AL

INC SI

LOOPNE @L1

MOV DX, 2024H

MOV CX, 4

MOV SI, 0

@ L2 :

MOV AL, 12 [SI]

OUT DX, AL

INC SI

INC DX

LOOP @L2

; SSD

; 1

MOV DX, 2030H

MOV CX, 2

MOV SI, 0

@ SS1 :

MOV AL, SSD1 [SI]

OUT DX, AL

INC SI

LOOPNE @SS1

; 4

MOV DX, 2031H

MOV CX, 4

MOV SI, 0

@ SS2 :

MOV AL, SSD2 [SI]

OUT DX, AL

INC SI

LOOPNE @SS2

MOV DX, 2032H

MOV CX, 5

MOV SI, 0

@ SS3 :

MOV AL, SSD3 [SI]

OUT DX, AL

INC SI

LOOPNE @SS3

RET

START ENDP

CSEG ENDS

END START