

Ahsanullah University of Science & Technology

Department of Computer Science & Engineering

Course No: CSE3108

Course Title: Microprocessors Sessional

Assignment No: 95

Date of Submission: $5/2/2 \circ 22$

Submitted To: Ms. Tahsin Aziz & Ms. Tanjila Broti

Submitted By -

Group: B2

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Section : B

Question:

Dot matrin: 'OM7M7'

Seven segment: '077

LED : GREEN

Ans werz!

DSEG SEGMENT 'DATA'

MAINLOOP DB O

COUNT DB O

COUNT2 DOO

VALUE OB 3EH, 7FH,01H,01H,00H, 7FH,02H,04H,02H, 97FH, 00H, 7FH, 01H,01H,01H,7FH, 02H,09H,02H,7FH, 3EH, 41H,41H,91K

INDXEX DW 2018H, 2017H, 2016H, 2015H, 2014H, 2013H, 2012H, 2010H, 2010H, 200FH, 200FH, 200CH, 200BH, 200AH, 2009H, 2008H 2007H, 2006H, 2005H, 2004H, 2003H, 2001H, 2000H,

INDEX 2 DW 2017H, 2016H, 2015H, 2014H, 2013H, 2012H, 2011H, 2010H, 200FH, 200EH, 200BH, 200BH

INDEX3 DW 2016H, 2017H, 2015H, 2014H, 2013H, 2012H, 2011H, 2010H, 200FH, 200EH, 2000H, 2006H, 2006H, 2006H, 2006H, 2006H, 2006H, 2007H, 2006H, 2007H, 2006H, 2017H

INDEX4 DW 2015H, 2014H, 2013H, 2013H, 2012H, 2011H, 2010H, 200FH, 2000H, 2000H, 2000H, 2000H, 2000H, 2000H, 2000H, 2000H, 2000H, 2018H, 2017H, 2000H, 2018H, 2017H, 2016H

INDEX 5 DW 2014H, 2013H, 2012H, 2011H, 2010H, 200FH, 200EH, 200DH, 2004H, 2008H, 2007H, 2006H, 2005H, 2004H, 2004H, 2004H, 2016H, 2015H

- INDEXE DW 2013, 2012h, 2011h, 2010h, 200 Fh, 200 Fh, 200 Bh, 201 Bh, 201 Fh, 2016h, 2015h, 2014h,
- INDEXT DW 1012,2011h, 2010h; 200 Fh, 200 Eh, 200 Dh, 200 Ch, 200 Bh, 200 Ah, 2010 Ah, 2008h, 200 Fh, 200 Ah, 2015h, 2016h, 2016h, 2016h.
- INDEX8 Dw 2011/2004, 2004, 2006h, 2006h, 2006h, 2006h, 2006h, 2006h, 2006h, 2006h, 2016h, 201
- INDEX 9 DW 2010,200Fh, 200Eh, 2000h, 200Bh, 200Ah, 2009h, 2008h 2008h, 2017h, 2016h, 2015h, 2013h, 2012h, 200Ch 2008h, 2016h, 2016h, 2013h, 2012h,
- INDEX 10 DW 200Fh, 200Eh, 2008h, 2008h, 2008h, 2009h, 2009h, 2009h, 2009h, 2009h, 2019h, 2019
- INDEX 11 Dw 200Eh, 2000h, 200Ch, 2008h, 200Ah, 2009h, 2008 h, 2007h, 2006h, 2018h, 2017h, 2016h, 2018h, 2017h, 2016h, 2018h, 201
- INDEXID W 2000h, 200Ch, 200Bh, 200Ah, 2009h, 2008h, 2007h, 2006h, 2005h, 2000h, 2009h, 2008h, 2017, 2016, 2015, 2014h, 2013h, 2013h, 2011h, 2010h, 200Fh, 200Eh,
- INDEX 13 DW 200 Ch, 2008h, 2007h, 2008h, 2007h, 200 6h, 2015h, 2004h, 2017h, 2016h, 2015h, 2014h, 2013h, 2012h, 2011h, 2010h, 200Fh, 200Eh, 200Dh,
- INDEX 140W. 2008h, 2008h, 2008h, 2007h, 2016h, 2005h, 2009h, 2002h, 2001h, 2016h, 2015h, 2019h, 2018h, 2012h, 2011h, 2010h, 2008h, 2006h, 2008h,
- Inden 15 Dw 200AH, 2009H, 2008h, 2007h, 2006h, 2005h, 2004h, 2003h, 2002h
 2001h, 2000h, 2000h, 2018h, 2018h, 2016h, 2015h, 2014h, 2013h
 2012h, 2011h, 2010h, 200Fh, 200Eh, 2000h, 2008h, 2003h,
- Inden 16 13 w 2009h, 2008h, 2007h, 2006h, 2005h, 2004h, 2003h, 2004h, 2018h, 2017h, 2016h, 2018h, 2017h, 2016h, 2018h, 2018h, 2018h, 2018h, 2018h, 2008h, 2008h, 2008h, 2008h, 2008h, 2008h,
- Inden 17 0w 2008h, 2007h, 2006h, 2005h, 2004h, 2003h, 2002h, 2001h, 2000h, 2018h, 2017h, 2016h, 2019h, 2019h, 2019h, 201h, 2010h, 2007h, 2008h, 200Ah, 2009h,
- Inden 10 DW 2007h, 2006h, 2008h, 2004h, 2003h, 2002h, 2001h, 2000h, 2018h, 2017h, 2016h, 2015h, 2014h, 2013h, 2012h, 2011h, 2010h 2007h, 2008h, 2008h, 2008h, 2009h, 2008h, 2008h,

Inden 19 DW 2006h, 2008h, 2004h, 2003h, 2002h, 2001h, 2010h, 2018h, 2018h, 2018h, 2018h, 2018h, 2014h, 2013h, 2012h, 2011h, 2010h, 200Fh, 200Eh, 2000h, 200Ch, 200Bh, 200Ah, 200gh, 2008h, 2007h,

Inden 20 DW 2005h, 2004h, 2003h, 2002h, 2001h, 2000h, 2018h, 2017h, 2018h, 2015h, 2019h, 2013h, 2012h, 2011h, 2010h, 200Fh, 200Eh, 200Dh, 200Ch, 200Bh, 200Ah, 2009h, 2008h, 2007h, 2006h,

Inden 21 DW 2004h, 2003h, 2002h, 2001h, 2000h, 2018h, 2017h, 2016h, 2015h, 2018h, 2013h, 2012h, 2011h, 2010h, 200Fh, 200En, 2000h, 200Bh, 200Bh, 200Ah, 2009h, 2008h, 2007h, 200 6h, 2005h,

Inden 22 DW 2003h, 2002h, 2001h, 2000h, 2018h, 2017h, 2016h, 2015h, 2019h, 2012h, 2011h, 2010h, 200 Fh, 200 Fh, 200 Dh, 200 ch, 200 Bh, 200 Ah, 200 gh, 200 8h, 2007h, 200 4h, 2005h, 2004h

Inden 23 Dw 2002h, 2001h, 2000h Jol8, 2017h, 2016h, 2015h, 2014h, 2013h, 2012h, 201h 2010h, 200Fh, 200Fh, 200Dh, 200Ah, 200Ah, 200Ah, 200Ah, 200Bh, 2007h, 2006h, 2005h, 2004h, 2003h, 8.

Inden 24 DW 2001h, 2000h, 2018h, 2019h, 2016h, 2019h, 2019h, 2013h, 2012h, 2011h, 2010h, 200Fh, 200Eh, 200Bh, 200Ch, 2008h, 200AH, 2009h, 2008h, 2007h, 20061,2085h, 2004h, 2003h, 2002h, 20011,200

Inden 25 DW 2000h, 2018h, 2017h, 201Kh, 2015h, 2014h, 2013h, 2012h, 2014, 2014, 200Fh, 200Eh, 200Dh, 200Ch, 200Bh, 200AH, 2009h, 2008h 2007h, 2006h, 2005h, 2004h, 2003h, 2002h, 20014

DSEG ENDS

SSEG SEGMENT Stack STACK!

DW looh DUP(1)

SSEG ENDS

(SEG SEGMENT CODE!

START PROL FOR

push Ds

MOY AX, O

push AX

MOV AX, DSEG

MOV DS, AX

MOV ES, AX

Mov dn, 2001h movAL, 01h old Dx, Al Mov Dn, 20304 MOV AL, OIL OUT DX,AL MOV DX, 20 70 H MOV AL, 04 H OUT DX, AL MOV DX, 2003H MOVAL, OIH OUT DX, AL MOV DX, 2030 H MOVAX, O3H OUT DX, AL MOV DX, 2004H MOV AL, 02H OUT DX, AL MOV DX, 2030 H MOVAL, 07H OUT DX, AL MOV DX, 2030H MOV AL, OFH OUT DX, AL MOV 0x, 2004h MOV AX, OGH OUT DX, AL MOV DX, 20044 MOV AL, OFH OUT DX,AL

MOV DX, 2030h MOV AL, IFh OUT DX, AL MOV DX, 2004H MOV AL, 1EN OUT DX,AL MOV DX, 2030 H MOV AL, 3FH OUT DX, AL MOV DX, 2009h MOV AL, 3Eh OUT DY, AL MOV DX, 20034 MOVAL, 41H MOVOX 2002 h MOV AL, 414 Out DX, AL MOV 0x, 20014 MOV AL, 914 out DX, AL MOV DX, 2000 H MOV AL, 20H OUT DX, AL MOV DX, 2000h MOV AL, 30H OUT DX, AL Mo V DX, 2000h MOV AL, 384 OUT DX AL MOV DX, 200 H MOV AL, 3CH

MOV DX, 200H MOV AL, JEH ; O DOT Out DX, Al

MOV CX, OFFh L2: Loop L2

MOV DY, 2005h
MOV AL, 40h
OUT DX, AL
MOV DX, 2031h
MOV AL, 03H
OUT DX, AL

MOV DX, 2005h MOV AX, 60 BH OW DX, AL

MOV DX, 20314 MOV AL, 034 Out DX, AL MOV DX, 2065 MOV AL, 704

MOV DX, 2031 h MOV AL, OZh ; 754

Out DX, AL

MOV DX, 2005h MOV AL, 78h out DX, AL

MOV DX, 20054 MOV AL, 7CK Out DX, AL

MOV DX, 2005h MOV AL, FEH Out DX, AL MOV DX, 2005h MOV AL, FFA Out DX, AL

MOV DX, 2006h

MOV AL, 02H

OUT DX, AL

MOV DX, 2007h

MOV AL, 04H

OUT DX, AJ

MOV DX, 2008h

MOV AL, 02h

OUT DX, AL

MOV DX, 2009h
MOV AL, OIH
Out DX, AL
MOV DX, 2032h
MOV AL, OIH
Out DX, AL

MOV DX, 2009h
MOV AL, 03h
Out DX, AL
MOV DX, 2032h
MOV AL, 03h
Out DX, AL
MOV DX, 2009h
MOV DX, 07h
Out DX, AL
MOV DX, AL
MOV DX, 2009h
MOV DX, AL
MOV DX, AL
MOV DX, AL
MOV DX, AL
OF h
Out DX, Al

; 7 59

MOV DX, 2009 h MOV AL, OFL atox, AL MOV DX, 20094 MOV AL, IFA Out DX, AL MOV Dx, 20094 MOV AL,3FH OUT DX, AL Mov DX, 20094 MOV AL, 7FH ME DOT out DX, AL MOV CX, OFFH L3: LOOP L3 MOV DX, 200AH MOV AL, OIH Out DX, AL MOV DX, 200BH mor AL, OIH OUT DX,AL MOV DX, 2000H MOV AY, OIH out DX,AL MON DX, 2000 H MOV AL, OH out DX, Al mov DX, 2000h MOVAL, 03h out DX, AL

MOV DX, 2000h MOV AL, OTh out DX, AL MOVAR OODL. MOV AL, OFH out DY, AL MOV DX, 200Dh MOV AL, 1Fh out DXAL MOV DX, 200 Dh MOV AL, 3Fh Out DY, AL mov 0x, 20004 MOVAL, # 7Fh Out DX, AL ; 7 Dot MOV QX, OFFh L4: LOOP L4 MOV CX, OFFh MOV CX, Oh MOV DX, 200Fh MON AL, 40 h ALOUT DX, AL MOV DX, 200 Fh Mov Al, 60 in out DX, Al MOV DY, 200Fh may AL, For MOV DX, 200Fh MOV AL, 784 Out OX,AL

MOV DX, 200Fh MOV AL, FCH OUT DX, AL MOV DX, 200Fh MOV AL, 7Eh out OX, AL MOV DX, 200Fh MOV AL, 7Fh out DX, AL MOV DX, 2010h MOV AL, 02h Out DX, AL MOV DX, 2011h MOVAL, 04h out DX, AL MOV DX, 2012h MOY DX, AL MOVAL, 02h MOV DX, 2013h MOV AL, Olh MOUT DX, AL MOV DX, 2013h MOV AL, O3h OUT DX/AL MOV DX/2013h MOV ALIOTH OUT DX,AL Mov DX, 2013h MOVAL, OFh OUT DX, AL MOV DX, 20134 MOVAL, 1Fh OUT DX, AL

MOU DX, 2013h MOV AL, 3Fh OUT DX, AL MOV DX, 20Bh MOV AX 7Fh ; MOOT OUT DX,AL MOV CX, OFFh L5: LOOP L5 MOV DX, 20154 MOV AL, 014 OUT DX, AL MOV DX, 20164 MOVDX, 20164 MOVAL, OIL OUT DX,AL MOV DX, 2017h MOVAL, DO 1h OUT DX, AL MOVDX, 20184 mov AL,01h OUT DX, AL MOV DX, 2018h MOV AL, O3h MOV DX, AL, O7h OUT DX, AL MOV DX, 20184 MOV AL, OFH OUT DX/ AL

MOV DX, 2018h

MOV AL, IFh

OUT DX, AI

MOV OX, 2018h

MOV AL, 3Fh

OUT DX, AL

MOV DX, 2018h

OUT DX, AL; 7 Dot Print Done

MOV CX, OFFH

L1: Loop L1

CODE:

MOV EX, 25 d

MOV SI, O

MOV EX, 25 d

MOV SI, O

MOV DI, O

MOV DX, 2070 ha

MOV AL, O4 h

OUT DX, AL

MOV AL, 3Fh

MOV AL, 07h

OUT DX, AL

MOV DX, 2031h

MOV AL, 07h

OUT DX, AL

MOV AL, 07h

OUT DX, AL

MOV CX, OFFH LO: LOOP LO

LOOPS:

MOV DX, INDEX[SI]

MOV AL, VALUE[DI]

OUT DX, AL

ADD SI, 2

INC DI

INC Count

CMP Count, 25

JEINITIAL

LOOP LOOP1
INITIAL:

MOV DI, 0 MOV CX, 25d

MOV Count, 0

INC Count 2

CMP Count 2, 25

JB LOOP1

MOV DX, 2070h
MOV AL, OOH
OUT DX, AL
MOV DX, 2030h
MOV AL, OOH
OUT DX, AL
MOV DX, 2031h
MOV AL, QOIL
MOV DX, 2032h
MOV AL, OOH
OUT DX, AL

INC MAINLOOP

MOV Count, O

MOV count 20

MOV CX, OOFFh

L9: LOOP L9

CMP MAINLOOP

JB CODE

MOV CX, 25

MOV DX, 2000h

MOV AL, OOK

CleanDOT:

Out DX, AL

INC DX

LOOP CLEARDOT

RET

START ENDP

CSEG ENDS

ENDS START