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Assignment for weak and Bright students

Department	**Computer Engineering**	**Course**	**Microprocessor Based System**
Semester	**IV**	**Code**	**MBS190806**
Date of Assignment	**8/4/23**	**Date of Submission**	**13/4/23**

Assignment for marks below 08 Marks

1. Draw Architecture of 8086
2. Explain following 8086 instructions with the help of example
   1. ADD
   2. ADC
   3. RCL
   4. RCR
   5. MUL
3. Draw flag register of 8086 and working of following flags with example
   1. SF 2. CF 3. ZF 4. PF 5.AF
4. Draw Minimum and Maximum mode of 8086
5. Write a program to find out 1's complement of given number
6. Write an instruction for following operation
   1. Transfer data from register AL to memory location 5000h
   2. Exchange the content of register DL and CL
   3. Increment and Decrement the content of BL by 1
   4. Rotate the content of register DL by 2
   5. SUB AL,BL where AL= 05h and BL= 05h what will be the status of zero flag.
7. Explain bus arbitration of 8086.
8. Draw timing diagram for memory read m/c cycle
9. **What will be the status of OF & SF after the following operation?**
   Mov al, 05h
   add al, 7Bh
10. Assume CS = 1000 H, SS = 2000 H, DS = 3000H , ES = 4000 H, BX =5000H , BP =3179H , SI = 8086H, DI = 1605H what will be the physical address of data in the instruction.
    MOV CL,[2000H]
11. With neat diagram explain the Bus controller

Assignment for marks between 08 to 15 :

1. Explain memory access of 8086 with diagram (all four)
2. If AL=17H, CL=34H, SS=3000H and SP=FF45H. Analyse the following assembly code snippet. What is the value of SP after the execution of every instruction?
   POP AL
   POP CL
   PUSH DL

3. WAP to perform addition of the content of memory location 5000 to 5005

5000	01
5001	02
5002	03
5003	04
5004	05

4. Explain overflow flag with the help of example
5. Explain working of following instructions: 1. DAA 2. AND 3.SAL
6. Draw timing diagram for memory read and write m/c cycle.
7. Assume CS = 1000 H, SS = 2000 H, DS = 3000H , ES = 4000 H, BX =5000H , BP =3179H , SI = 8086H, DI = 1605H what will be the physical address of data in the instruction. **MOV CL,[2000H]**

8 Explain Interrupt structure with neat diagram

Assignment for marks between 16 to 20:

1. The 8 data bytes are stored from memory location E000H to E007H. Write 8086 ALP to transfer the block of data to new location B001H to B008H using string instructions.

2. Draw timing diagram for IO read m/c cycle.

3. The value in the register CX after the execution of the given snippet until LABEL1, LABEL2 respectively are?

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Assume CS = 0128H , DS = A200H, SS =7238H, ES=3100H
        STD
        MOV SI, 0237H
        MOV DI, 0237H
        MOV CX,02H
LABLE 1: REPE CMPSB
LABLE 2: REP MOVSB
```

ADDRESS	DATA
31235H	10
31236H	15
31237H	25
31238H	38
31239H	58

ADDRESS	DATA
A2235H	2
A2236H	5
A2237H	25
A2238H	38
A2239H	58

4. WAP to find square of 8 bit numbers located in memory location 7000 to 7005 and store calculated square at memory location 6000 to 6005.

5. Processor wants to access the content of memory locations where lower byte stored at location 2006 and higher byte stored at location 2005 Identify and draw the type of memory access?

6. Explain Interrupt structure with neat diagram