Lab

Software required to accompany Computer Organization and Arch. Textbook (COAT)

Microprocessor Emulator

Downloadable from http://www.emu8086.com/

Registration key:
User: ic0n0statse
Key: CSEJHFVZ3FRTQZXJKASA

Or

an open-source alternative

SPIM MIPS simulator

Downloadable from https://sourceforge.net/projects/spimsimulator/files/

MCQ

1.The result of MOV AL, 65 is to store

A. store 0100 0010 in AL

B. store 42H in AL

C. store 40H in AL

D. store 0100 0001 in AL

2. Which of the following is not an 8086/8088 general-purpose register?

A.Code segment (CS)

B. Data segment (DS)

C. Stack segment (SS)

D. Address segment (AS)

3. During a read operation the CPU fetches _____.

A. a program instruction

B. another address

C. data itself

D. all of the above

4. Which is not part of the execution unit (EU)?

A. Arithmetic logic unit (ALU)

B. Clock

C. General registers

D. Flags

5. Which is not an operand?

A. Variable

B. Register

C. Memory location

D. Assembler

6. Which bus is bidirectional?

A. Address bus

B. Control bus

C. Data bus

D. None of the above

7. Which of the following is not a basic element within the microprocessor?

A. Microcontroller

B. Arithmetic logic unit (ALU)

C. Register array

D. Control unit

8. Status register is also called as _____.

A. accumulator

B. stack

C. counter

D. flags

9. The Microprocessor places 16 bit address on the add lines from that address by _____register should be selected

A. address

B. one

C. two

D. three

10- BIU STAND FOR:

a. Bus interface unit

b. Bess interface unit

c. A and B

d. None of these

11- EU STAND FOR:

a. Execution unit

b. Execute unit

c. Exchange unit

d. None of these

12- IP stand for:

a. Industry pointer

b. Instruction pointer

c. Index pointer

d. None of these

1- What are the phases for any processor, specific them?

2- How many registers in BIU?

3- How many registers in EU?

4- What is happen in the processor when execute instruction?

5- What is the size for each register, try to give an example if all registers have the same size or not?

6- What are CP, BP, AX, DS, ES, DI denote to?

7- How can I catch the value in a variable?

8- What is the purpose in writing $ in a program? And where can I use it?

9- What is the usage of org 100h?

10- Where can I define the variables or the array? And where can I write the processing code?

11- How can microprocessor work ?

Assembly Programs

1- Write a program to display string 'Electrical and Electronics Engineering' for 8086

2- Write a program to multiply 2 numbers (16-bit data) for 8086.

3- Sum of series of 10 numbers and store result in memory location total.

Interrupts: 12h, 13h, 19h, 20h, 21h