Mid Questions

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QUESTION

Status

You have completed this assignment. Your final grade will be available when the assessments of your response are complete.

COMPLETE

1 Your Response due Aug 29, 2021 22:10 +06 (in 0 minutes)

Status

Your response has been submitted. You will receive your grade after all steps are complete and your response is fully assessed.

The question for this section

Answer the following questions:

1. Suppose you ordered an air-conditioner from daraz.com using your smartphone. Write 2 differences between the brain of those devices. (2 marks)

2. When you launched your browser for the exam, the OS loader moved the necessary instructions to the memory. How do the instructions reach the CPU? (2 marks)

3. The keyboard that you are using to type the answer communicates with your computer via which bus? (1 mark)

Your response

(1) Air conditionar's brain is Microcontroller. Smartphone's brain is Microprocessor.
(a)Microprocessor's clock speed and RAM is higher whereas microcontroller's clock speed and RAM is less.
(b)Microprocessor's only CPU is in the chip. Memory,I/O port are connected externally whereas Microcontoller's CPU,Memory,I/O port- all are connected on the same single chip.

(2) First the program will be loaded into RAM by OS and whenever CPU is available the OS sends the instructions to the CPU.

(3) The keyboard that you are using to type the answer communicates with your computer via control bus.

NOT AVAILABLE

2 Staff Grade

Waiting for a Staff Grade

Check back later to see if a course staff member has assessed your response. You will receive your grade after the assessment is complete.

Your Grade: Waiting for Assessments

You have completed your steps in the assignment, but some assessments still need to be done on your response. When the assessments of your response are complete, you will see feedback from everyone who assessed your response, and you will receive your final grade.

Question

2.0/2.0 points (graded)

Intel 80386DX has a 32-bit address bus. What should be the range of memory locations it can access?

- ○ 0000000H–FFFFFFFH
- ○ 0000001H–FFFFFFFH
- ◉ 00000000H–FFFFFFFH

- ○ 00000001H–FFFFFFFFH
- ○ 000000000H–FFFFFFFFH
- ○ 000000001H–FFFFFFFFH

✔

Examples of non-volatile memory are:

- ☐ RAM
- ☑ ROM
- ☑ SSD
- ☐ Cache
- ☑ HDD

✔

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Show Answer

Question

3.0/3.0 points (graded)

Which of the following is/are true about the Internal Architecture of 8086?

- ☐ The instruction queue always executes 6 instructions at a time.
- ☐ BIU and EU work together to reduce throughput and increase speed.
- ☑ BIU is responsible for writing data into memory.
- ☑ EU decodes the instructions received from the queue.
- ☑ EU operates with respect to clock cycles.

✔

Suppose, the BIU fetched an instruction from the memory location 82010H. If CS = 8000h then what was the offset value required? (Write the hexadecimal value only.)

2010 ✔

2010

Which of the following are true for the Execution Unit of 8086?

- ☐ It can calculate physical address.
- ☑ It can send request signals to BIU to access the external module.
- ☐ It fetches instruction from the memory and decodes and executes them.
- ☑ It executes instructions using the ALU.
- ☑ It uses Flag Registers to control certain operations.

✔

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Question

3.0/3.0 points (graded)

If DS = 1A2B, IP = 1234, BX = 125A, DX=2156, BP = 61A4. What is the Physical Address generated here

- ○ 2123A
- ◉ 1B50A
- ○ 6126B
- ○ 1AB2C

✔

For Data segment, the base address is A124. What is the address of the fifth and third last memory location

- ○ fifth location: A1245 , third Last :2019E
- ◉ fifth location: A1244 , third Last :B123D
- ○ fifth location: 2019E , third Last :A1245
- ○ fifth location: B123D , third Last :2019E

✔

If base address is AC1D and Physical address is AD2F3, what is the offset value?

- ○ A110
- ○ 1014
- ◉ 1123
- ○ 1101

✔

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Show Answer

Question

3.0/3.0 points (graded)

MOV AX, 89FFh
MOV BX, AB7Bh
ADD AX,BX
After the instructions are executed, how many status flags will be SET? Answer must be an integer in decimal.

3 ✔

3

MOV AX, 89FFh
MOV BX, AB7Bh
ADD AX,BX
After the instructions are executed, how many status flags will be RESET? Answer must be an integer in decimal.

3 ✔

3

MOV AX, 89FFh
MOV BX, AB7Bh
ADD AX,BX
ADD AX,BX
After the instructions are executed, what will be the value of the Overflow Flag? Answer must be an integer in decimal.

0 ✔

0

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Machine Codes

3.0/4.0 points (graded)

MOD = 11			EFFECTIVE ADDRESS CALCULATION			
R/M	W = 0	W = 1	R/M	MOD = 00	MOD = 01	MOD = 10
000	AL	AX	000	(BX) + (SI)	(BX) + (SI) + D8	(BX) + (SI) + D16
001	CL	CX	001	(BX) + (DI)	(BX) + (DI) + D8	(BX) + (DI) + D16
010	DL	DX	010	(BP) + (SI)	(BP) + (SI) + D8	(BP) + (SI) + D16
011	BL	BX	011	(BP) + (DI)	(BP) + (DI) + D8	(BP) + (DI) + D16
100	AH	SP	100	(SI)	(SI) + D8	(SI) + D16
101	CH	BP	101	(DI)	(DI) + D8	(DI) + D16
110	DH	SI	110	DIRECT ADDRESS	(BP) + D8	(BP) + D16
111	BH	DI	111	(BX)	(BX) + D8	(BX) + D16

Figure: R/M vs MOD Chart for MOV: 100010 instruction

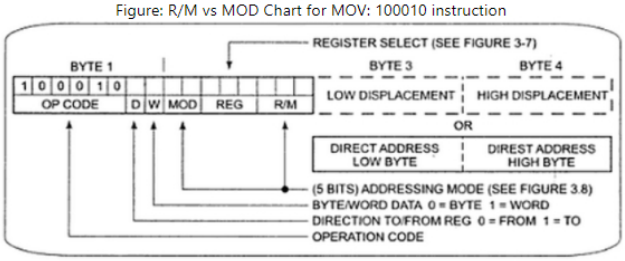

Figure: MOV: 100010 instruction template

Based on the above templates, answer the following Questions:

Q. `MOV [BP], DI` referes to -

- ○ Register Indirect Addressing
- ◉ Register Relative Addressing
- ○ Base-plus-index Addressing
- ○ Base-relative-plus-index Addressing
- ○ None of the above

✔

Q. According to the above template, machine code for the `MOV BP, 13h` is -

- ○ 0BD1300h
- ○ 892E1300h
- ○ 8BEBh
- ○ 8B2E1300h
- ◉ Cannot be calculated from the above template

✔

Q. According to the above template, the machine code `897C34h` refers to-

- ○ MOV [34h], DI
- ○ MOV DI, [34h]
- ◉ MOV SI+[34h], DI
- ○ MOV DI, SI+[34h]
- ○ None of the above

✔

Q. All machine codes for the instructions generated by the above template those follow the **Direct Addressing Mode** are ____ bytes long.

- ○ 2

3

4 ✔

either 3 or 4

6

✖

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Show Answer

Answers are displayed within the problem

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