COE 205 Dr. Aiman El-Malch

HW#2

Q1

	Address (Hex)	Memory Content (Hex)	
I	0000	FF	DB -1, 255
	0001	FF	
	0002	FA	DW 0FAh
	0003	00	
	0004	06	DD -250
	0005	FF	
	0006	FF	
	0007	FF	
J	0008	32	DB '24'
	0009	34	
	000A	34	DW '24'
	000B	32	
	000C	08	DW offset J
	000D	00	
	000E	02	db 2dup(2, 4, 2dup('24'))
	000F	04	
	0010	32	
	0011	34	
	0012	32	
	0013	34	
	0014	02	
	0015	04	
	0016	32	
	0017	34	
	0018	32	
	0019	34	

Q2 (i) 1. ADD AX, [BX+16]

AX ← F2E9 + 58BC = 4BA5

Sourse addressing mode : based addressing mode

Destination " " : register " "

2. MOV BH, Byte PTR i+4

BH ← [0014] = 30

Source addressing mode : direct

Destination = = : register

3. ADD CL, [SI-2]

CL ← CL + [0014] = A0 + 30 = D0

Source addressing mode : indexed

Destination = = : register

4. MOV Byte PTR [BX+DI+1], -1

[0013] ← FF

Source addressing mode : immediate

Destination = = : Based-indexed

5. MOV word PTR i, offset j

[i+1 : i] ← offset j

[0011 : 0010] ← 0013

Source addressing mode : immediate

Destination = = : direct

6. MOV DX, [BX][SI]

DX ← [0018] ← 00

* we assumed that [0018] contains 00h.

(ii) Starting address of the code segment = 3FDF0

Ending = = = = = =

3FDF0 + 0FFFF = 4FDEF

physical address of the next instruction to be fetched from memory = 3FDF0 + IP

= 3FDF0 + E731

= 4E521

(iii) offset address of source operand = 0002 + 0010 + 1
= 0013 H

physical address = 1EC00 + 0013 = 1EC13

(iv) AX = ABCE , BX = 4816 + ABCE = F3E4

O = 0, S = 1, Z = 0, A = 1, P = 1, C = 0

(v) BX = 740A , AX = 6A57 - 740A = F57D

O = 0, S = 1, Z = 0, A = 1, P = 1, C = 1