Instructor: Nauraiz Subhan QUIZ_01_EE2003 Time Alloted: 30mins

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EE SEC (B)

Instructions

- You will receive 0 score in case of cheating or plagiarism.
- No extra time will be given.
- This Quiz has only one page.
- Use the back side of the paper for rough work.

Question 1 [6 Points]

Write any one significant difference between the following modes of operations.

Real Address Mode	Virtual-8086 Mode
Programs can access any part of main memory up to 1MB.	It is a special case of Protected mode, in which Real-Address mode softwares can be executed.

Question 2 [12 Points]

Complete the two tables below.

Not Case Sensitive!

32bit	16bit	8bit	8bit
EAX	AX	AH	AL
Ecx	CX	CH	CL
eCx	CX	CH	CL

STATUS FLAGS	Full Form (Names)	Example
CF	CARRY FLAG	MOV AL, 255d ADD AL, 1d ; AL=0 e.g. FF +1 → $\boxed{1}$ $\boxed{00}$
ZF	ZERO FLAG	MOV AL, -128d ADD AL, 128d AL=0 $\boxed{ZF=1}$
SF	SIGN FLAG	MOV AL, 128d ADD AL, -130d $\boxed{PL=1}$ AL=128-130=-2 e.g. 11111110, FE

Question 2 [12 Points]

Must Draw Memory MAP for this or similar questions.

P.T.O →

```
TITLE My First Program (Test.asm)
INCLUDE Irvine32.inc

.data
      Erty  DWORD 12h, 2345ABEFh, 00201200Bh
      Ptr_loc LABEL WORD
      Erty2 QWORD  0111222ABCDh,0 ;
      var12 byte 123d, 0fh,

.code
      main PROC
            Movzx eAx, Ptr_loc+4;          EAX = ?
            Mov ebx, Erty + 1;             EBX = ?
            Mov ecx, Erty + 16;            ECX = ?
            movzx ax, var12;               AX  = ?
            mov [var12 + 1], 2*10-128;     Var12 + 1 =
            movsx ax, [var12+1];           AX  = ?
            movsx edx, Ptr_loc+3;          EDX = ?
            call DumpRegs;                 What is purpose of DumpRegs?
      exit
      main ENDP
      END main;                            Hint: First make a memory map!
```

EAX = ?

Ptr_loc+4 points at 11
Placed at loc 0x10, from
there two BYTES moves into EAX.

Movzx EAX, Ptr_loc+4;

a) EAX = 00000011

b). Mov EBX, ERTY+1

EBX = EF000000

c). ECX = 00000011

d). AX= 007Bh

parts e, f and g can be solved in similar fashion.

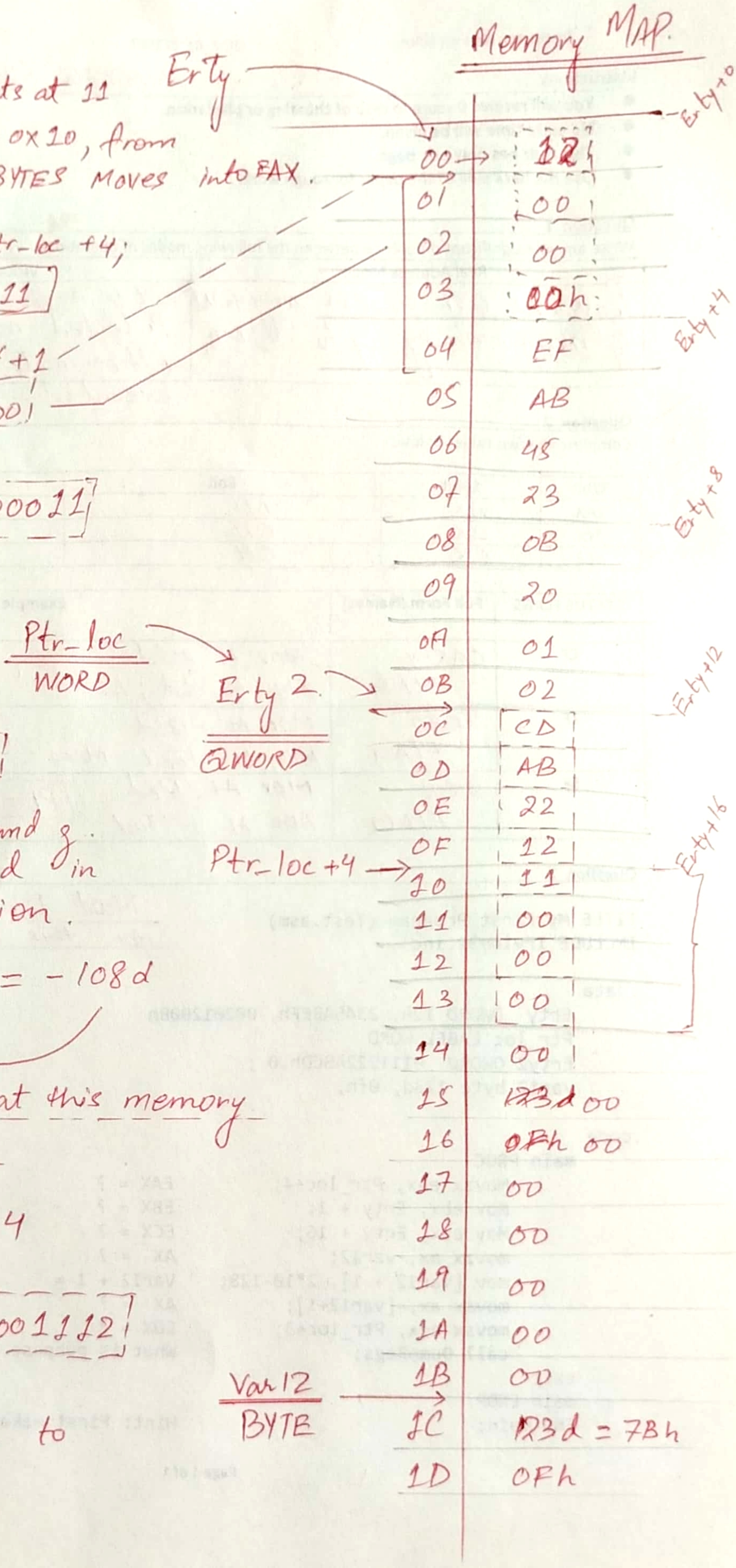
e). [var12+1] = -108d

overwrite -108 at this memory location

f). Ax = FF94

g). EDX = 00001112

h). Read book to find out.



00	12
01	00
02	00
03	00h
04	EF
05	AB
06	45
07	23
08	0B
09	20
0A	01
0B	02
0C	CD
0D	AB
0E	22
0F	12
10	11
11	00
12	00
13	00
14	00
15	~~123d~~ 00
16	~~0Fh~~ 00
17	00
18	00
19	00
1A	00
1B	00
1C	123d = 7Bh
1D	0Fh