Homework 4

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4.1.10

2. (True/False): The destination operand of a MOV instruction cannot be a segment register

Answer: False

4.9.1

5. What will be the value of the Parity flag after the following lines execute?

```
mov al,1
add al,3
```

Answer: 0

6. What will be the value of EAX and the Sign flag after the following lines execute?

```
mov eax,5
sub eax,6
```

Answer: 1

12. (Yes/No): Is it possible to set the Overflow flag if you add a positive integer to a negative integer?

Answer: No

14. (Yes/No): Is it possible for the NEG instruction to set the Overflow flag?

Answer: Yes

4.9.2

1. Write a sequence of MOV instructions that will exchange the upper and lower words in a doubleword variable named three.

Answer: mov eax, word ptr three
mov ebx, word ptr three+2
mov three, ebx
mov word ptr three+2, eax

10. Write a sequence of two instructions that set both the Carry and Overflow flags at the same time

Answer: mov al,70h
add al,90h

4.10

1. Converting from Big Endian to Little Endian

Write a program that uses the variables below and MOV instructions to copy the value from bigEndian to littleEndian, reversing the order of the bytes. The number's 32-bit value is understood to be 12345678 hexadecimal.

```
.data
bigEndian BYTE 12h,34h,56h,78h
littleEndian DWORD?
```

Answer: .code
main PROC
mov al,[bigEndian+3]
mov BYTE PTR [littleEndian],al

```
mov al,[bigEndian+2]
mov BYTE PTR [littleEndian+1],al
mov al,[bigEndian+1]
mov BYTE PTR [littleEndian+2],al
mov al,[bigEndian]
mov BYTE PTR [littleEndian+3],al
```