Summary Exercise - Week 4

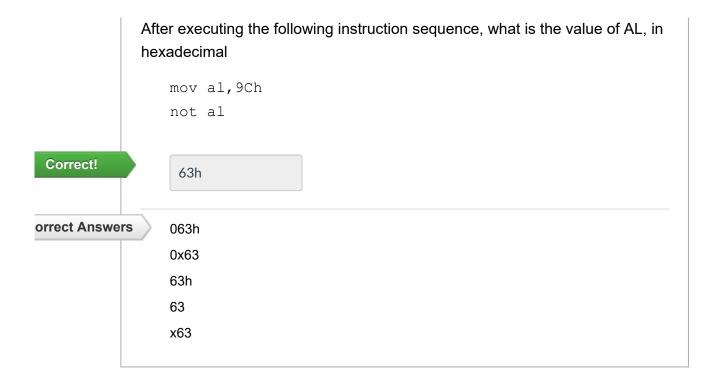## Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	73 minutes	26 out of 26

Score for this attempt: **26** out of 26
Submitted Oct 25 at 6:21pm
This attempt took 73 minutes.

Question 1   1 / 1 pts

After executing the following instruction sequence, what is the value of AL, in hexadecimal

```
mov al,86h
or  al,42h
```

Correct!

> C6h

Correct Answers

0C6h

xC6

C6h

C6

0xC6

Question 2   1 / 1 pts

After executing the following instruction sequence, what is the value of AL, in hexadecimal

```
mov al,9Ch
not al
```

63h

063h

0x63

63h

63

x63

Question 3

1 / 1 pts

After the following instruction sequence, show the values of the Carry

0

, Zero 0

, and Sign 0

flags

```
mov al,00110011b
test al,2
```

Answer 1:

0

Answer 2:

0

Answer 3:

0

Question 4

1 / 1 pts

What is a single instruction that clears bits 0, 3, and 4 in the AL register?

○ and al,11001110b

○ and al,11100101b

○ or al,00011001b

○ or al,11100110b

Correct! ⏵ ◉ and al,11100110b

○ or al,11110010b

Question 5
1 / 1 pts

What is a single instruction that complements all bits in AL, without using the XOR instruction?

○ and al, al

Correct! ⏵ ◉ not al

○ or al,al

○ not ah

Question 6
1 / 1 pts

Suppose EAX, EBX, and ECX contained three unsigned integers. Which of the following code excerpts would display the largest of the three integers?

```
        cmp eax,ebx
        jae L1
        mov eax,ebx
    L1: cmp eax,ecx
        jae L2
        mov eax,ecx
 ◉  L2: call WriteInt
```

```
        cmp eax,ecx
        jae L1
        mov eax,ebx
    L1: cmp eax,ebx
        jae L2
        mov eax,ecx
 ○  L2: call WriteInt
```

```
        cmp eax,ebx
        jnae L1
        mov eax,ebx
    L1: cmp ecx,eax
        jnae L2
        mov eax,ecx
 ○  L2: call WriteInt
```

```
        cmp eax,ebx
        jb  L1
        mov eax,ebx
    L1: cmp eax,ecx
        jb  L2
        mov eax,ecx
 ○  L2: call WriteInt
```

Question 7

1 / 1 pts

After executing the following instruction sequence, what is the value of AL, in hexadecimal

```
mov al,72h
xor al,0A5h
```

0D7h

xD7

0D7h

0xD7

D7h

D7

Question 8

1 / 1 pts

After the following instruction sequence, show the values of the Carry

| 0 | , Zero | 0 | , and Sign | 0 |

flags

```
mov al,6
cmp al,5
```

Answer 1:

Correct!

0

Answer 2:

Correct!

0

Answer 3:

Correct!

0

Question 9

1 / 1 pts

What is a single instruction that inverts bits 5 and 6 in BL without changing any other bits?

○ xor bl,0011111b

○ or bl,1100000b

◉ xor bl,1100000b

○ and bl,1100000b

Question 10

1 / 1 pts

What will be the hexadecimal value of AL after these instructions execute?

```
mov al,94h
xor al,37h
```
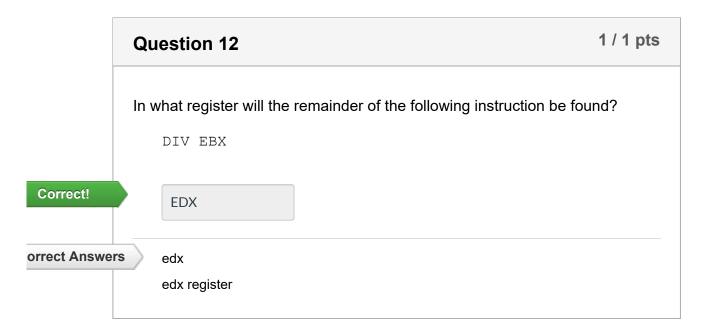
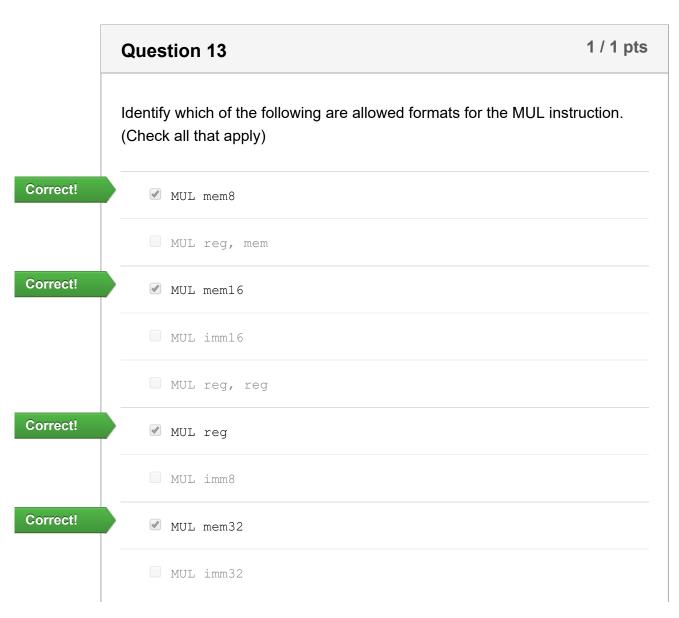○ not listed

○ B7h

◉ A3h

○ 3Fh

Question 11

1 / 1 pts

The Irvine32 library call GetMseconds returns

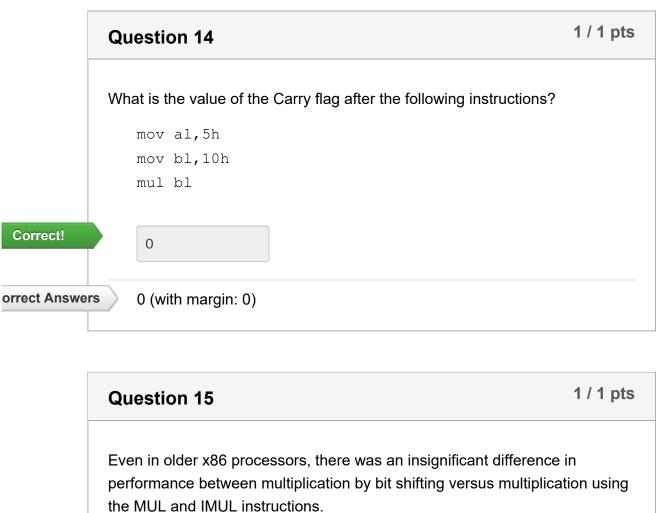○ number of system midnight seconds that have elapsed since the epoch

○ number of system microseconds that have elapsed since the epoch

○ number of system microseconds that have elapsed since midnight

○ number of system microsoftseconds that have elapsed since midnight

○ number of system milliseconds that have elapsed since the epoch

◉ number of system milliseconds that have elapsed since midnight

Question 12

1 / 1 pts

In what register will the remainder of the following instruction be found?

```
DIV EBX
```

Correct!

EDX

orrect Answers

edx

edx register

Question 13

1 / 1 pts

Identify which of the following are allowed formats for the MUL instruction. (Check all that apply)

Correct!

☑ MUL mem8

☐ MUL reg, mem

Correct!

☑ MUL mem16

☐ MUL imm16

☐ MUL reg, reg

Correct!

☑ MUL reg

☐ MUL imm8

Correct!

☑ MUL mem32

☐ MUL imm32

Question 14

1 / 1 pts

What is the value of the Carry flag after the following instructions?

```
mov al,5h
mov bl,10h
mul bl
```

Correct!

0

orrect Answers

0 (with margin: 0)

Question 15

1 / 1 pts

Even in older x86 processors, there was an insignificant difference in performance between multiplication by bit shifting versus multiplication using the MUL and IMUL instructions.

○ True

Correct!

◉ False

Question 16

1 / 1 pts

Unlike the MUL instruction, IMUL preserves the sign of the product.
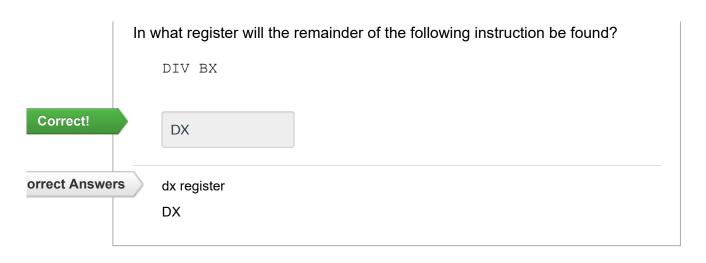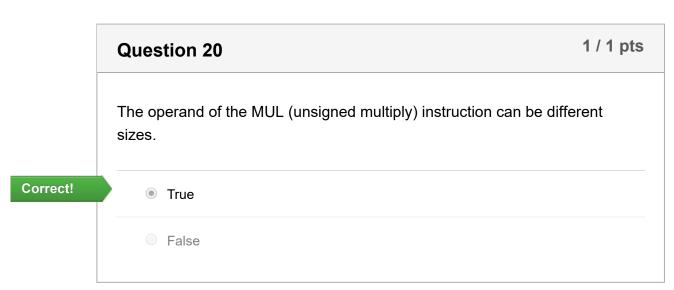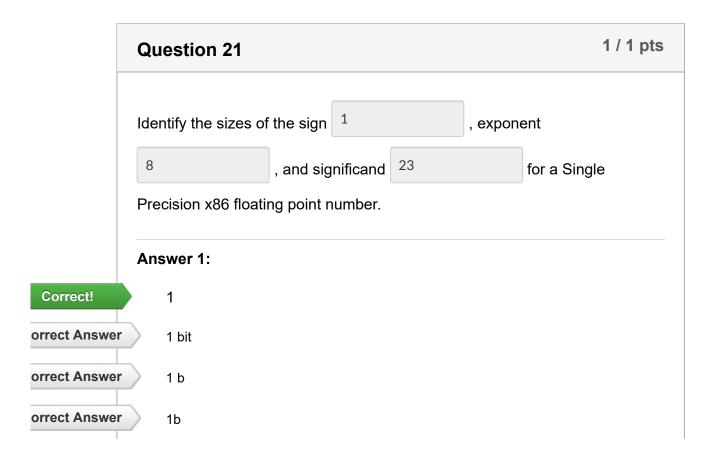
Correct!

◉ True

○ False

Question 17

1 / 1 pts

Identify which of the following are correct formats for the DIV instruction. (Check all that apply)

Correct!

- ☑ `DIV reg`

Correct!

- ☑ `DIV mem32`

Correct!

- ☑ `DIV mem8`

- ☐ `DIV imm8`

Correct!

- ☑ `DIV mem16`

- ☐ `DIV reg, reg`

- ☐ `DIV reg, mem`

- ☐ `DIV imm16`

- ☐ `DIV imm32`

Question 18

1 / 1 pts

The MUL (unsigned multiply) instruction comes in three versions.

Correct!

- ⦿ True

- ○ False

Question 19

1 / 1 pts

In what register will the remainder of the following instruction be found?

```
DIV BX
```

Correct!

DX

dx register

DX

Question 20

1 / 1 pts

The operand of the MUL (unsigned multiply) instruction can be different sizes.

Correct!

◉ True

○ False

Question 21

1 / 1 pts

Identify the sizes of the sign [1] , exponent

[8] , and significand [23] for a Single

Precision x86 floating point number.

Answer 1:

Correct!

1

orrect Answer

1 bit

orrect Answer

1 b

orrect Answer

1b

1bit

Answer 2:

Correct!

8

8b

8bits

8 b

8 bits

Answer 3:

Correct!

23

23b

23bits

23 b

23 bits

Question 22

1 / 1 pts

According to the lecture correction, identify the sizes of the sign

| 1 bit |

, exponent | 16 bits |

, and significand

| 63 bits |

for a Double Extended Precision x86 floating point

number.

Answer 1:

Correct!

1 bit

1

Answer 2:

Correct!   16 bits

Answer 3:

Correct!   63 bits
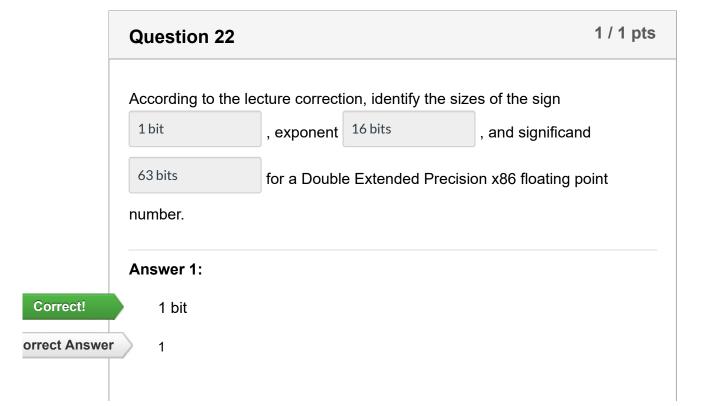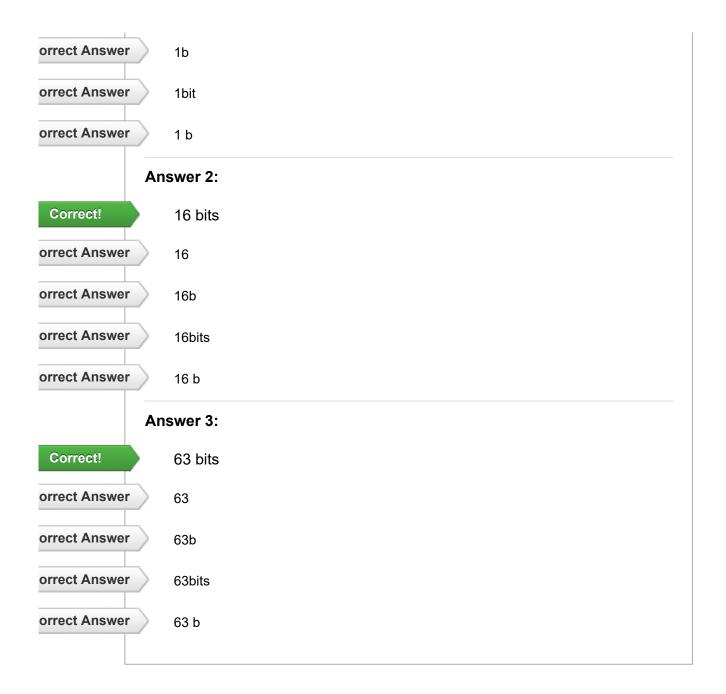
Question 23   1 / 1 pts
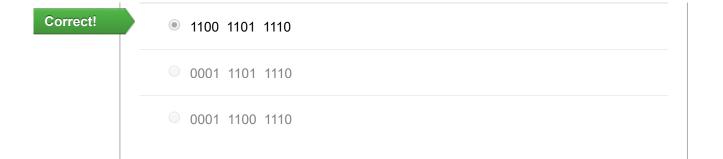
Select the correct **EVEN** parity 12 bit Hamming code value for the unsigned integer value 110

○ 1001 1100 1110

○ 1100 1100 1110

○ 1000 1101 1110

○ **1100 1101 1110**

○ 0001 1101 1110

○ 0001 1100 1110

Question 24

1 / 1 pts

Select the correct **EVEN** parity 12 bit Hamming code value for the unsigned integer value 191

● 0111 0110 1111

○ 0011 0110 1111

○ 1010 0110 1111

○ 1000 0111 1111

○ 1010 0111 1111

○ 0111 0110 1110

Question 25

1 / 1 pts

1101 0000 1100 is an **ODD** parity 12 bit Hamming code that contains a single-bit error.
What is the corresponding **uncorrupted** Hamming code?

○ 1001 0000 1110

● 1101 0000 1110

○ 1101 0010 1110

○ 1101 1000 1110

Question 26

1 / 1 pts

0011 1000 1011 is an **EVEN** parity 12 bit Hamming code that contains a single-bit error.
What is the corresponding **uncorrupted** Hamming code?

○ 0111 1000 1011

○ 0011 1001 1011

Correct!

◉ 0011 1000 1010

○ 0011 0000 1011

Quiz Score: **26** out of 26