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Mark: 13/13 (total score: 13/13)

+163/1/36+

CS 218 - Worksheet 4

□0 □1 □2 ■3 □4 □5 □6 □7 □8 □9 ⟵ Encode last 5 of NSHE ID
□0 □1 □2 □3 □4 ■5 □6 □7 □8 □9
□0 □1 □2 □3 □4 □5 □6 □7 □8 ■9
□0 □1 □2 □3 □4 □5 □6 ■7 □8 □9
□0 □1 □2 □3 □4 □5 □6 ■7 □8 □9

Enter Name: First Last
Chayden Richardson

For each of the following questions, select only the best answer.

Question 1 Given the following code fragment, what is in the **eax** and **edx** registers?

```
mov     eax, 11
cdq
mov     ebx, 4
idiv    ebx
```

□ eax = 0x00000003 and edx = 0x00000000
□ eax = 0x00000003 and edx = 0x00000001
□ eax = 0x00000002 and edx = 0x00000000
☒ eax = 0x00000002 and edx = 0x00000003

1/1

Question 2 What function does each of the following instructions perform.

```
mov    rax, var
mov    rax, qword [var]
```

☒ The first accesses the address and the second access the value.
□ The first accesses the value and the second access the address.
□ They both access the value.
□ They both access the address.

1/1

Question 3 Given the following code fragment, what is in the **ebx** register?

```
ans1     dd     7

mov      eax, 3
mov      rbx, ans1
add      eax, dword [rbx]
```

☒ eax = 0x0000000a
□ eax = 0x00000009
□ eax = 0x0000000b
□ eax = 0x00000010

1/1

Question 4 Given the following code fragment, what is in the **eax** and **edx** registers?

```
list1    dd    2, 3, 4, 5, 6, 7

mov      rbx, list1
add      rbx, 4
mov      eax, dword [rbx]
mov      edx, dword [list1]
```

☒ eax = 0x00000003 and edx = 0x00000002
□ eax = 0x00000002 and edx = 0x00000003
□ eax = 0x00000002 and edx = 0x00000002
□ eax = 0x00000006 and edx = 0x00000002

1/1

eax: ~~1~~ ~~4~~ 9
rcx: ~~2~~ ~~1~~ 0
rsi: ~~4~~ ~~8~~ 12

Question 5 Given the following code fragment, what is in the **eax** and **ebx** registers?

```
      lst   dd    2, 3, 5, 7, 9

      mov    rsi, 4
      mov    eax, 1
      mov    rcx, 2
lp:   add    eax, dword [lst+rsi]
      add    rsi, 4
      loop   lp
      mov    ebx, dword [lst]
```

□ eax = 0x0000000b and ebx = 0x00000009

Note, the instruction: loop lp is the same as:

```
dec   rcx
cmp   rcx, 0
jne   lp
```

1/1

□ eax = 0x0000000a and ebx = 0x00000007

☒ eax = 0x00000009 and ebx = 0x00000002

□ eax = 0x00000008 and ebx = 0x00000002

Addressing Modes

What is the address mode of the source operand for each of the following instructions (Register, Immediate, Memory, or Illegal instruction).

Question 6 mov ebx, 14

□ Regsiter
☒ Immediate
□ Memory
□ Illegal

1/1

Question 7 mov ecx, dword [rbx]

□ Regsiter
□ Immediate
☒ Memory
□ Illegal

1/1

Question 8 mov byte [rbx+4], 10

□ Regsiter
☒ Immediate
□ Memory
□ Illegal

1/1

Question 9 mov 10, rcx

□ Regsiter
□ Immediate
□ Memory
☒ Illegal

1/1

Question 10 mov dl, ah

☒ Regsiter
□ Immediate
□ Memory
□ Illegal

1/1

Question 11 mov ax, word [rsi+4]

□ Regsiter
□ Immediate
☒ Memory
□ Illegal

1/1

Question 12 mov cx, word [rbx+rsi]

□ Regsiter
□ Immediate
☒ Memory
□ Illegal

1/1

Question 13 mov ax, byte [rbx]

□ Regsiter
□ Immediate
□ Memory
☒ Illegal

1/1