**Final Exam Review**

1. The structural components of a computer. (exam 1 topic)

2. Decimal to Hex a. 64 b. 100 c. 111 d. 145

3. Decimal to Hex

4. Hex to Decimal a. C b. 9F c. D52 d. 67E

5. Hex to Decimal

6. Allocate an array with specific items.

Ex. Declare an array that allocates elements of size 4-bytes, where the elements are 0, 4, 0FFh and 01111h.

7. Know the different data types in assembly. BYTE. WORD. DWORD. How many bits is each? How many bytes is each.

Ex. Which data type deals with numbers that are 16-bits?

8. How to pass information to procedures via registers. (Irvine Chapter 5)

9. PUSH instruction can push a 32 bit register or 16 bit register.
**PUSH** *reg32/reg16*

10. POP instruction can POP into a 32 bit register or 16 bit register.

**POP** *reg32/reg16*

11. Given some declaration can you figure out how many bytes it consumes.

ex: myDwords DWORD 44,66,88,33

12. Same

13. Same

14. What specifically does the **LOOP** instruction do? (Irvine Chapter 4)

15. Know the Irvine Library stuff: ReadString, WriteString, ReadInt, WriteInt

Know what the inputs and outputs of the commands are and how to use them.

16. MOV, MOVZX, MOVSX.

17. Know how to declare a procedure.

name proc

....

ret

name endp

18. Know how to interpret and write nested loops.

19. Know the mov instructions and be able to figure out the contents of EAX after a series of mov instructions.

20. Know how to add together two registers (any size, know the segments of all the general purpose registers)

21. Same

22. Imagine I had a program that asks you for a password and displays a message if you input the right password and a different message if you put in the wrong password. How could you reverse engineer it to take in a wrong password as the right one?

23. Know about "strcpy" function in C++

24. Know about buffer overflows

25. Same