

Members: _____ Group #: _____

Answer all of the following questions before coming into the lab. You will lose marks if your pre-lab is incomplete.

The answers are in the **MUN-88 Single-Board Computer** manual. Read the MUN-88 *Circuit Description*, including the memory map, and first three sections of the *Monitor Reference Manual – Introduction, Getting Started, and Monitor Commands*.

1. How much RAM and ROM does the MUN-88 have? What is the type of each?

2. What is the frequency of the crystal and of the processor clock?

3. What is the maximum memory capacity of the MUN-88 available through expansion?

4. What is the address of the output port to which the LEDs on the board are connected?

5. What is the address of the input port to which the DIP switches are connected?

6. What I/O ports does the timer (8254 programmable interval timer) occupy?

7. In a couple of sentences, briefly describe the MUN-88 Monitor and some of its functions.

8. If after you apply power to the MUN-88 board, the LEDs flash an alternating on-off pattern, what does this mean?

9. How many bytes does the monitor reserve for the stack space?

10. What MUN-88 Monitor command should be used:
 - a. to display contents of memory? _____
 - b. to read and display the value of an input port? _____
 - c. to light or extinguish the LEDs? _____
 - d. to download a program to the MUN-88? _____