Lab 3

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Section 75C9

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* Prelab Questions:

1. What is the advantage of mirroring the input and output ports to $4000 - $4FFF? What would be necessary if you wanted to only place the ports at $4000 and no place else?

*Because it will be using the external memory. Set the IOPORT at address $4000.*

2. Write the address decode equation to put the input and output ports at addresses at $1000 - $7FFF.

*CSO = /A15 + A14 + A13 + A12*

3. What is the complete range of external memory on the XMEGA?

*The XMEGA is 16MB.*

4. The uPad Proto Base is configured to use the EBI in SRAM ALE1 mode, which does not give us address bits A23:16. Which mode(s) can be used to access these higher address bits? Describe the change(s) necessary to use one of these modes. What additional hardware is needed, if any?

*SRAM ALE12 or 4PORT SRAM using ALE2. We would need a 4PORT SRAM.*

* Problems Encountered:

Some of the LEDs wouldn't turn on because of poor soldering.

* Future Work/Applications:

Now I can use memory mapped IO in future labs.