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Cpre 288 – Post-lab 3

2/12/20

Post-lab 3

1. **Prelab Planning Boards**
2. The three priority questions I formulated during my lab planning work were:
3. *How helpful will the datasheet be?*
4. *How will we interact with the different GPIO registers?*
5. *Will bit masking be needed?*
6. During my planning I realized that both me and my partner would need to take some time to understand what the different GPIO registers relevant to the lab dis, and I realized that we would need to spend time learning how to read the datasheet.
7. **Lab Notes**
8. For my three priority questions I found:
9. I found that the data sheet was extremely informational and helpful.
10. We ended up using various GPIO registers to allow us to access the LCD’s various functionalities with the pushbuttons.
11. I found that due to the fact that were only using certain ports for the pushbuttons and LEDs we did in fact have to utilize bit-masking.
12. The only correction that I should have made to my prelab sketch was maybe adding a few lines explaining what the registers’ functionalities were. At the time I didn’t realize that they had different uses.
13. For the first debug demo we demonstrated that we could write a continuously looping program that would check for button presses and the output the position of the rightmost button onto the LCD screen. By completing this we showed that we understood how to search for information in both the datasheet and the GPIO Register Map, and we also showed that we understood how to use conditional while loops. For the second debug we demonstrated that we could create a program that would activate an LED if pushbutton 3 was the right most button pressed.
14. **Lab Retrospective**
15. In this lab we set out to use our coding ability and knowledge of the datasheet and GPIO registers to have the Cybot’s pushbuttons write to the LCD screen.
16. We finished part 1 of the lab relatively quickly, however it took us an extended period of time to code and debug the final part of the lab.
17. Our struggles came about primarily because we didn’t efficiently use the datasheet when searching for pertinent information. We also spent some time trying to figure out how to mask certain hex values and how to set up the if statement for use in part 2.
18. Next time we’ll have to do a better job of efficiently using the datasheet when we want to find information.