To: Prof. Ross Snider

From: Kameron Kranse & Abdulaziz Alsaleh & Kasy Treu

Regarding: Lab 6 - “describing the functions that you created for making printing to the LCD easy”

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The code we used to print to the LCD was rather simple, the code would find which of the 4 switches were on with a case statement comparing the binary values that we cared about for a single switch. (e.g. when Switches = 8, SW3 was on, when Switches = 9, SW0 and SW3 were on, so we didn’t care about doing anything in that event.) We corresponded an int value to the switch with that case statement, and then used an if statement to check to see if any switches had been thrown. If a switch had been thrown, the value of x would change, and the if loop would run, printing out the values of the previous switch that had been thrown (which is passed on before the original x value is changed.) and the current switch (x value). The code we wrote is at the end of this document.

```
while(1){
        /* Write some simple text to the LCD. */

        switch(*Switches){
                case 0:
                        x = -1;
                        break;
                case 1:
                        x = 0;
                        break;
                case 2:
                        x = 1;
                        break;
                case 4:
                        x = 2;
                        break;
                case 8:
                        x = 3;
                        break;
        }

        if(oldX != x){
```

```
                oldX = x;
                oldSwitchLabel = switchLabel;

                //print first line
                if(x < 0){
                        fprintf(lcd, "\n" );
                }else {
                        switchLabel = x;
                        fprintf(lcd, "SW %d Active\n", switchLabel);
                }

                if(oldSwitchLabel >= 0){
                        fprintf(lcd, "Last SW %d\n", oldSwitchLabel);
                } else {
                        fprintf(lcd, "\n" );
                }
        }
}
```