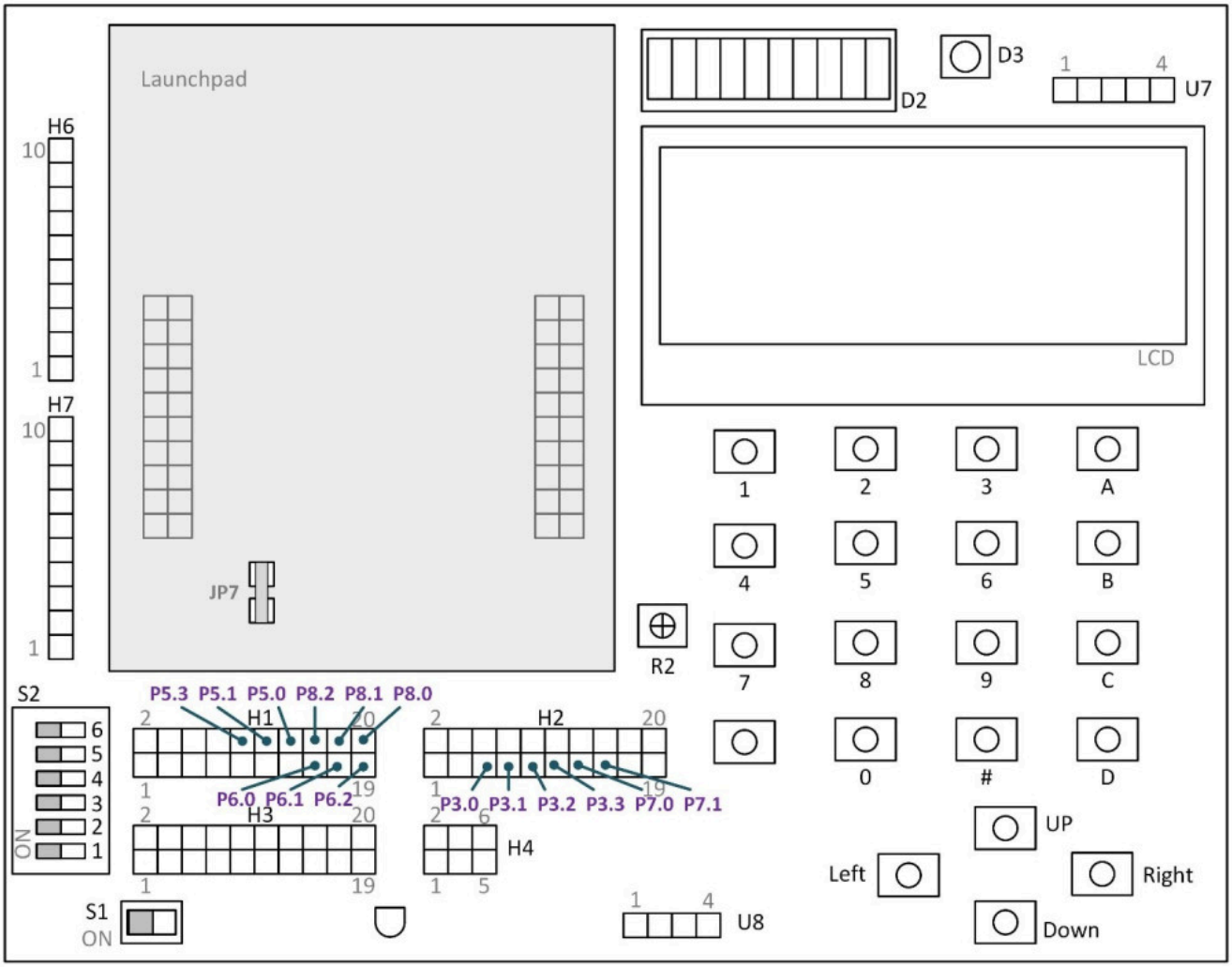
Lab3 description

Lab 3

System A

- For safety, remember and make sure to unplug your Launchpad from the USB port before making any hardware changes.
- The connection diagram is shown below. Connect your breadboard jumper wires. Students need to bring their own breadboard jumper wires to perform the laboratory tasks.
- For reference, 15 male-to-female breadboard jumper wires were used.

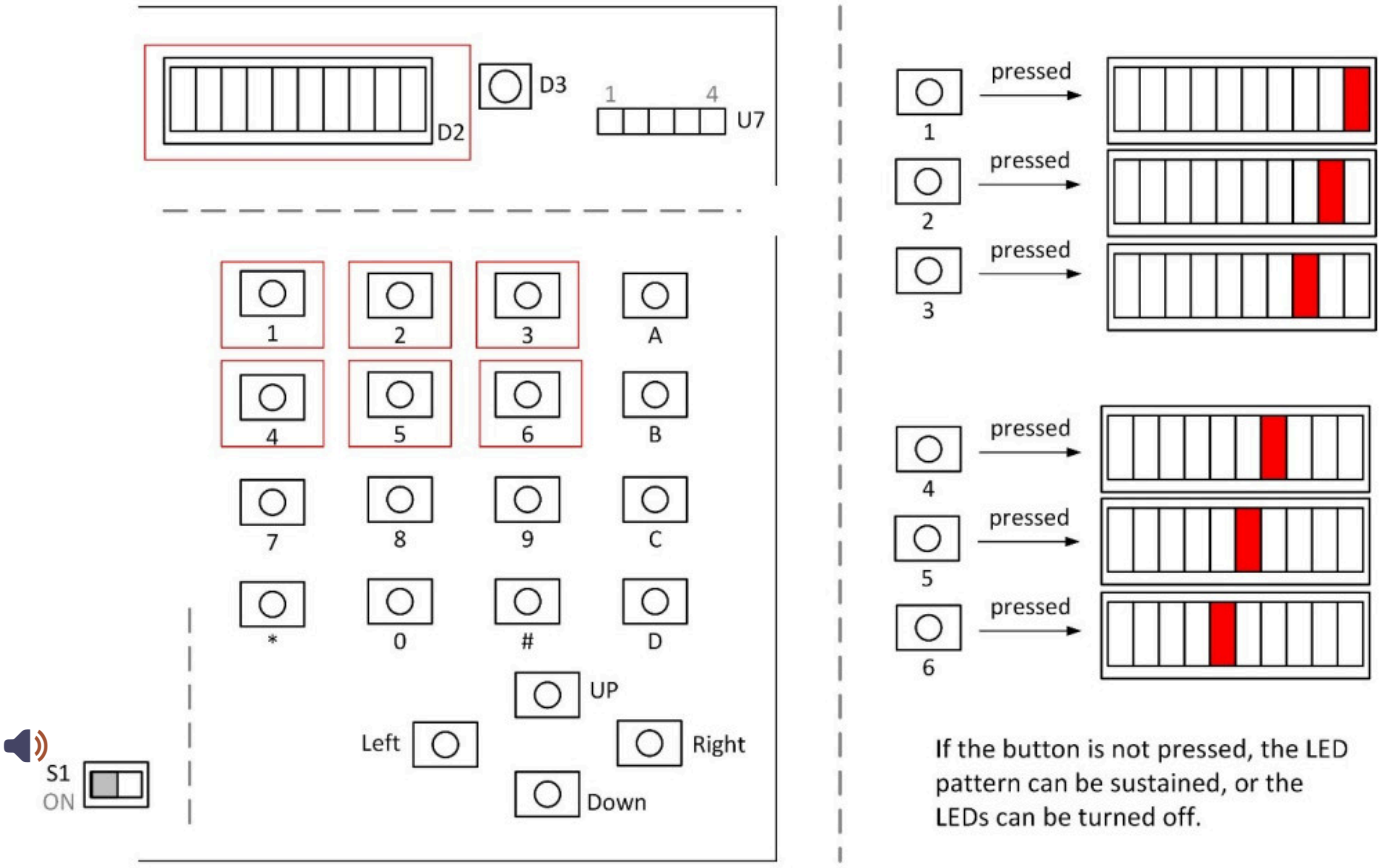


- For System A, students must write a **C/C++ program** for the following functions.
  - There is the "S2" button on the MSP430FR5944 Launchpad board. While this "S2" button is pressed, the RGB LED on the BH EDU board should keep changing colors with the sequence of Red, Green, and Blue. When the button is released, the LED should be turned off.
  - The duration of the color change must be between 0.5 seconds to 1 second.
- The following table shows the colors for the RGB LED, and the pins associated with the BH board for the given circuit diagram. Fill out the following table for the pins by choosing **0 or 1** to generate associated mixed LED colors. Make sure to include this table in your lab report.

	P6.0	P6.1	P6.2
Cyan			
Magenta			
Yellow			

System B

- For System B, students must write a **C/C++ program** for the following functions.
  - When the buttons of the keypad matrix button shown below are pressed, the proper LED should be turned on. See the following figure for more details.



  - If the button is not pressed, the LED pattern can be sustained, or the LEDs can be turned off.
- Make sure to complete the lab check-off assignment (Lab3-50X) posted on CANVAS before the given deadline. The code files should be submitted as a part of the lab check-off assignment. Laboratory assignment deadlines are 15 minutes before the end of your registered laboratory session.

Reference

- B. Hur, "Learning Embedded Systems with MSP430 FRAM microcontrollers", 2nd ed. 2023.