

CoE 115 Lab 2B: LCD Interfacing

February 2019

Exercise

Write an assembly code that will display the requirements as described below. Follow the same microcontroller-to-LCD pin connections discussed in Lab2A. Your system should toggle between the three views by using a push button (connected to RA0).

View 1: Display the first letter of your first name and your last name on the top line and student number on the second line [10pts]. The text should scroll horizontally from left going to right showing up on the left side again after disappearing on the right [10pts].

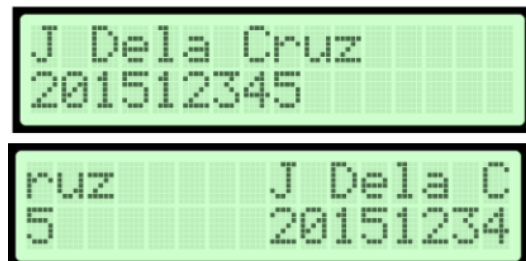


Figure 1: View 1

View 2: Press and Hold PB1. This will display your height (cm) in the first line and weight (lbs) in the second [15pts]. This will shift to the right and will reverse its direction when the rightmost character reaches the end [20pts].

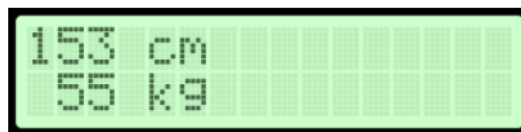


Figure 2: Direction: To the right

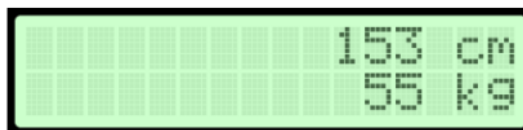


Figure 3: Direction: To the left

View 3: After releasing PB1 from first press for View 2, Push PB1 and hold again. It will scroll through the a list of recommended places to eat vertically one line at a time **[15pts]**. When you reach the end of the list, scrolling should reverse going up **[20pts]**:

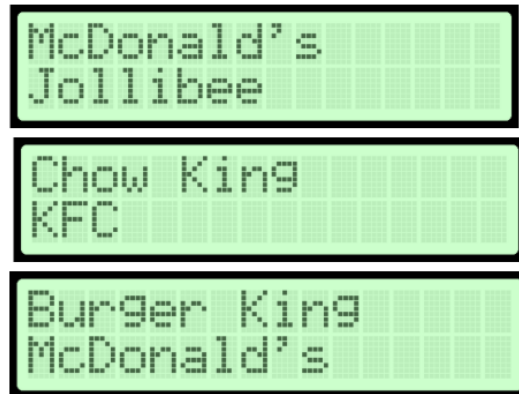


Figure 4: View 3

Note: Releasing PB1 after View 2 will pause the list of View 2. Releasing PB2 after View 3 will pause the list of View 3 for 10 seconds and restart to View 1. **[10pts]**

Assignment

Read about keypads and study about *debouncing*. Bring extra LEDs.