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Lab 2 Report

Exercise:

.MIF file
For the .MIF file, it was opened in a text editor notepad, and was extended to include the key values of the upper half of the alphabet letters A-Z, numbers 0-9 and the space key. (space key was assigned an LCD code of FF)

PS2 controller
Within the PS2_controller file, we added two cases in the edge detection for PS2 clock. If the make code was 12 or 59, we set the value of our tracker to 0 or 1 respectively, to account for the left or right shift.

S_LAST_CHAR
We created another state in which we use numerous OR functions to check if a key is pressed. Using a counter, if the PS2 code is equivalent to the character at that index, we know if the phrase is the same. After it is done, the state returns to S_IDLE.

S_LCD_FINISH_INTRUCTION and S_IDLE
Within these 2 states, we use the same logic, the only difference is it is applied to different lines. Again, we use OR functions to test if the first 8 characters match the last 8 characters. S_IDLE controls the red LEDs where we set a variable to 1 if the characters match.
S_LCD_FINISH_INSTRUCTION controls the green LEDs where we set a variable to 1 if the characters match.