Post Lab:

1. No, the LCD is not capable of displaying #, it instead shows a blank character. All other digits and letters work fine.
2. After we branch to lcd\_displaystring , we enter a loop which only breaks if we read all ones from the IDR. Additionally we implemented a small delay when switching between which line is pulled low to account for capacitance at the GPIO pins
3. Initially if no buttons are pressed all column inputs will read as 1 due to the pull up resistors. Then we start grounding the outputs one at a time while the rest remain high. When a button is pressed it completes the circuit between the row and the column it lies on. When a row is pulled low and a button on that row is pressed, the corresponding column gets pulled low. Then by knowing which row you have currently pulled low and determining which column is pulled low by looking at the IDR you can determine exactly which button is pressed.
4. If we used the internal pullup resistors we would end up sinking too much current into the GPIO pins since a smaller resistance draws more current.