**LearnToWrite Documentation**

**Overview of LearnToWrite.py Key Functions**

8/27/21

LearnToWrite.py Important Functions

Functions getMinDistance()

A function that is used to traverse through the decision windows based on cursor location, calculates distance to next decision window, and score.

This functions consists of several if statements that checks the current x,y position of the pen in regards to the current decision window, next decision window, and if it’s not on either decision window. If the current x,y position of pen is in the next decision window it will make that the current window and make n+1 the next window. In addition, it creates a list of black pixels that count as the coordinates of black pixels for score when in the current decision window. The next if statement checks if the pen is in range of the current decision window. In this part, it checks if the cursor is on a black pixel and increases score while removing that pixel coordinate from the list so that score doesn’t increase infinitely. Lastly, the else statement here is when the cursor is not on a decision window.

Main():

An asynchronous function used to interface with the ESP32 board via Bluetooth. This function is used to grabs the coordinates of the pen and interface with the letter images. When the input is near the first decision window, it starts the game and loops. It calls getMinDistance every loop to traverse the windows and increment score. It then uses this information to calculate intensity and direction to send to the esp32 board. When getMinDistance returns a true for being the final window, the game ends and prints its information.