Microprocessors Final Project

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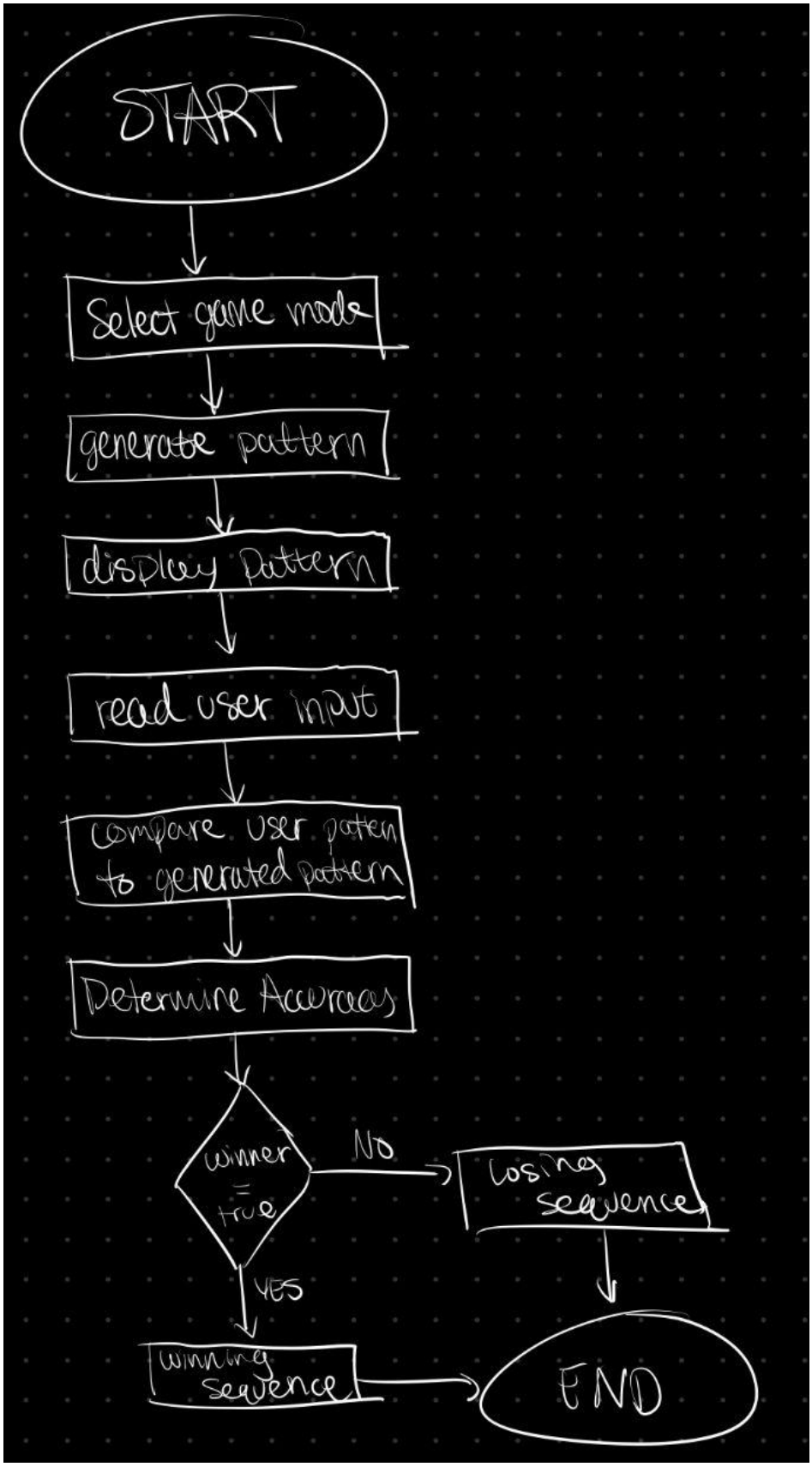
This program utilizes the Tiva C Series RGB LED and two switches to create a pattern matching game. Interrupts were implemented for both switches. When the program starts, the LED will light up green. The color of the LED indicates the current mode. To switch modes, press the first switch. The interrupt will cause the LED to change colors indicating a new mode. There are three different modes easy (green), medium (blue), hard (red). Once the desired mode is toggled, the user can then press switch two to lock in their mode. This interrupt will exit the mode selection and set the mode of the game to whichever mode was displaying upon the interrupt. After selecting the mode, the program will generate a random pattern that has two possible values. The pattern will then be displayed through the LED. One of the values in the generated pattern is represented by the color yellow, and the other value is represented by purple. After the pattern is displayed, the user is then prompted to input the same pattern using the two switches on the Tiva board. The color purple in the displayed pattern corresponds to switch one while the color yellow corresponds to switch two. Once the user has input the pattern, the program will then compare the user's pattern to the generated pattern. If both patterns match, the LED will flash green. If the patterns do not match, then the LED will flash red. Press the reset switch to try again!


START
Select game mode
generate pattern
display Pattern
read user input
compare user patern to generated pattern
Determine Accuracy
winner = true
No
losing sequence
YES
winning sequence
END