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EC450

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Homework 3

**Describe your design in detail:**

**How did you implement the recording?**

* Initially, the red LED is on and green LED is off
* Program does not start recording until button is pressed
* If button is pressed
  + Shut off red LED
  + If the max limit of button pushes haven’t been hit
  + Check if program was recording when the button wasn’t down and that max limit of button pushes hasn’t been hit
    - If so, add the duration to record array
  + If the max limit of button pushes hasn’t been hit
    - Turn green LED on
    - While button is down
      * Count++
    - Add the duration to record array
  + If the max limit has been reached
    - Flicker the red LED
  + Trigger a flag to get the program to start recording when button is up
  + Turn the green LED off again
* If time limit is reached to switch modes
  + Turn red LED on
  + Play back green LED pattern
  + Turn off red LED again
  + Turn off the flag so that program will not do anything until user pushes button again
* If the recording has been initialized
  + Count up for some time until the time limit to switch modes

**How did you do the transitions between major modes?**

The program is not doing anything until the first button click. That’ll put it into recording mode. If the user does not press the button again for a period of time, then it will turn into playback mode. After that, it will once again not do anything until the next button click.

**What are the limitations on your implementation?**

There’s a limit of only 10 presses because my int array is of size 20. The limit of how long the button can be pressed down is about a minute and a half (5 seconds gets the count to about 700 so with 64k available, it should be around then). The limit for how long the button can be up (aka before switching modes) is about 2 seconds.