

```

#include <TM1637Display.h>

#define DISINFECT_DURATION_SEC 300

#define UV_PIN 0
#define SWITCH_PIN 2
#define DISPLAY_CLK_PIN 4
#define DISPLAY_DIO_PIN 3

#define DELAY_1_SEC 1000
#define DELAY_DISPLAY_UPDATE 50
#define DELAY_LOOP_SLEEP 20

int counter = DISINFECT_DURATION_SEC;
TM1637Display display(DISPLAY_CLK_PIN, DISPLAY_DIO_PIN);

void setup() {
    display.setBrightness(0x02);
    pinMode(UV_PIN, OUTPUT);
    pinMode(SWITCH_PIN, INPUT);
    digitalWrite(UV_PIN, LOW);
}

void loop() {
    int val = digitalRead(SWITCH_PIN);

    // When the button is pressed:
    //   Turn the UV light on
    //   Count down until the timer expires
    //   Update the display
    if (val == HIGH) {
        counter = DISINFECT_DURATION_SEC;
        display.showNumberDec(counter, false);
        delay(DELAY_DISPLAY_UPDATE);
        digitalWrite(UV_PIN, HIGH);
        while (counter > 0){
            display.showNumberDec(counter, true);
            counter--;
            delay(DELAY_1_SEC);
        }
        digitalWrite(UV_PIN, LOW);
        display.showNumberDec(counter, false);

        // Keep the UV Light off at all other times
    } else{
        digitalWrite(UV_PIN, LOW);
    }

    // Limit the speed of this loop
}

```

```
delay(DELAY_LOOP_SLEEP);  
}
```