Terran Blake Lab Section: 7:30 Wednesday // Lab 1 Report

Objective: To become familiar with the Arduino IDE and to start writing code. Prelab: Code was uploaded to the website.

Part 1) First program was debugged and executed in the lab. The lab instructor verified the pulsing LED. The debugged code is included in Appendix A.

Part 2) The program was adapted to toggle a second pin every three seconds. This pin was monitored with a logic probe and shown to pulsing at the correct rate. The debugged code is included in Appendix B.

Appendix A: Code for Part 1

```
// Variables will change :
int LedTimer = LOW; // Intiger used to set up LED
unsigned long oldMillis = 0; // will store last time LED was updated
unsigned long olderMillis = 0; // will store last time LED was updated
int SuperTimer = LOW;
// constants won't change :
const long interval = 1000; // How often LED will blink
const long superinterval = 3000;
void setup() {
 // Makes pin 13 as an OUTPUT
 pinMode(13, OUTPUT); //Number of pin being used
 pinMode(12, OUTPUT);

}
void loop()
{
 // Will use the timer to find whether it is time to blink or not
 unsigned long currentMillis = millis();

 if(currentMillis - oldMillis >= interval) {
 // save the last time you blinked the LED
 oldMillis = currentMillis;
 // if the LED is off turn it on and vice-versa:
 if (LedTimer == LOW)
 LedTimer = HIGH;
 else
 LedTimer = LOW;
 // set the LED with the ledState of the variable:
 digitalWrite(13, LedTimer);
```

Appendix B: Code for Part 2

```
// Variables will change :
int LedTimer = LOW; // Intiger used to set up LED
```

```
unsigned long oldMillis = 0; // will store last time LED was updated
unsigned long olderMillis = 0; // will store last time LED was updated
int SuperTimer = LOW;
// constants won't change :
const long interval = 1000; // How often LED will blink
const long superinterval = 3000;
void setup() {
 // Makes pin 13 as an OUTPUT
 pinMode(13, OUTPUT); //Number of pin being used
 pinMode(12, OUTPUT);

}
void loop()
{
 // Will use the timer to find whether it is time to blink or not
 unsigned long currentMillis = millis();

 if(currentMillis - oldMillis >= interval) {
 // save the last time you blinked the LED
 oldMillis = currentMillis;
 // if the LED is off turn it on and vice-versa:
 if (LedTimer == LOW)
 LedTimer = HIGH;
 else
 LedTimer = LOW;
 // set the LED with the ledState of the variable:
 digitalWrite(13, LedTimer);
 if(currentMillis - olderMillis >= superinterval) { //Same idea as
the last counter but on a much faster pace and must be tested with Logic
Probe
 olderMillis = currentMillis;
 if (SuperTimer == LOW)
 SuperTimer = HIGH;
 else
 SuperTimer = LOW;
 //Assigning Pin to timer
 digitalWrite(12, SuperTimer);

 } //end of loop
} //end of program
}
```