**/\***

**Program 1**

**Luis Gomez**

**\*/**

void setup()

{

pinMode(4,OUTPUT);

}

void loop()

{

flashFive();

flashForever();

}

int flashFive()

{

int functionCount = 0;

while(functionCount < 5)

{

digitalWrite(4,HIGH);

delay(500);

digitalWrite(4,LOW);

delay(500);

functionCount++;

}

}

int flashForever()

{

int forever = 0;

while (forever ==0)

{

digitalWrite(4,HIGH);

}

}

**/\***

**Program 2**

**Luis Gomez**

**\*/**

int button =2;

int delaySwitch = 250;

int delayDefault = 500;

int value =0;

void setup()

{

pinMode(4,OUTPUT);

buttonConfiguration();

}

void loop()

{

value = digitalRead(button);

while (value == 1)

{

digitalWrite(4,HIGH);

delay(delayDefault);

digitalWrite(4,LOW);

delay(delayDefault);

value = digitalRead(button);

}

digitalWrite(4,HIGH);

delay(delaySwitch);

digitalWrite(4,LOW);

delay(delaySwitch);

}

// setup function defined below

void buttonConfiguration()

// Configures switch using pin 2

{

pinMode(button, INPUT); // configure pin 2 as input

digitalWrite (button, HIGH); // turn on pullup resistor on pin 2

}

**/\***

**Program 3**

**Luis Gomez**

**\*/**

int ledPin = 4;

int lightOn;

int lightOff;

int numFlash;

void setup()

{

pinMode(ledPin,OUTPUT);

portConfiguration(); // initiates serial connection

}

void loop()

{

userInterface(); // Prompts & records user input for LED flash delays and number of flashes

flashLED(numFlash); // Receives recorded user values and flashes LED accordingly

}

// Functions defined below

void portConfiguration()

// Intitiates serial port for 9600 baud and displays program title

{

Serial.begin(9600);

Serial.println("LED Flashing program written by Luis Gomez");

Serial.println();

}

int userInterface()

// Prompts user input for delays and number of flashes

{

numFlash = inputFlash();

}

int inputFlash()

{

int flashValue = 0;

Serial.print("Enter the number of Flashes: ");

while (flashValue == 0)

{

if (Serial.available() > 0)

{

flashValue = Serial.parseInt();

Serial.print(flashValue);

flashValue = check(flashValue);

Serial.println();

}

}

return flashValue;

}

int flashLED(int num)

// Receives user input and flashes LED accordingly

{

for (int x = 1; x <= num; x++)

{

Serial.print(x);

digitalWrite(ledPin, HIGH);

delay(500);

digitalWrite(ledPin, LOW);

delay(500);

Serial.println();

}

Serial.println();

}

int check(int enterednumber)

// checks if user input is an invalid value

{

if (enterednumber <= 0 )

{

Serial.print(" is an Invalid Value, please try again.");

Serial.println();

return(0);

}

Serial.println();

return (enterednumber);

}