/\* Confirm button sketch that allows a person to select how many times they want to LED to blink at 10%, 50%, or 100% intensity
 \*  using Pulse Wave Modulation. A confirm button is pressed when the cycle is selected \*/

int delay\_value = 500;
int filter\_delay = 200;
const int kled\_pin = 9;
  //a 1 second delay between blinks, pin 9 to handle analog input
const int kcycleButton = 12; //digital pin 12 pushed repeatedly to indicate number of blinks
const int kbutton1 = 7; //digital pin 7
const int kbutton2 = 4; //digital pin 4
const int kbutton3 = 2; //digital pin 2
const int kconfirmButton = 13; //digital pin 13 //button must be pushed to start cycles
int cycles\_r = 0; //the number of running cycles
int percent = 0;  //the intensity of the LED
String pass="";

void setup()
{
   pinMode(kled\_pin, OUTPUT);
   pinMode(kcycleButton, INPUT);
   pinMode(kbutton1, INPUT);
   pinMode(kbutton2, INPUT);
   pinMode(kbutton3, INPUT);
   pinMode(kconfirmButton, INPUT);
   Serial.begin(9600);
}
void loop()
{
   while( digitalRead(kconfirmButton) != 1)
  {
  //count the number of cycles chosen
  counter\_cycles();
  //select the intensity of the LED output
  select\_percent();
  }
    //run the routine
  run\_routine();
}

void counter\_cycles()
{

  //check to see how many time cycleButton is pushed
   if ( digitalRead(kcycleButton) == 1)
    {
      delay(filter\_delay);
      cycles\_r = cycles\_r + 1;
      //cycles\_r++;
      Serial.println(pass+"Cycles= " + cycles\_r);
        while (digitalRead(kcycleButton) == 1)
        {}

      }
}

void select\_percent()  //choose the intensity of the output
{

  // intensity 10%
  if ( digitalRead(kbutton1) == 1)
  {
    delay (filter\_delay);
    percent = 25;
  }

     // intensity 50%
  if ( digitalRead(kbutton2) == 1)
  {
    delay (filter\_delay);
    percent = 128;
  }

    // intensity 100%
  if ( digitalRead(kbutton3) == 1)
  {
    delay (filter\_delay);
    percent = 255;
  }
}

void run\_routine()
{
  Serial.println(pass+"Run " + cycles\_r + " times with " + percent+ " % of intensity");
  for (int i = 1; i<= cycles\_r; i++)
  {
    //Activate PWM
    analogWrite(kled\_pin, percent);
    delay(delay\_value);
    //turn off LED
    digitalWrite(kled\_pin, 0);
    delay(delay\_value);
  }
  //Reset Cycles & Percent
  cycles\_r = 0;
  percent = 0;
}