const int pingpin=4;

const int led = 13;

int baselineTemp = 0;

int celsius = 0;

int fahrenheit = 0;

void setup()

{

Serial.begin(9600);

pinMode(led, OUTPUT);

pinMode(2, OUTPUT);

}

void loop() {

long duration, cm;

pinMode(pingpin, OUTPUT);

digitalWrite(pingpin, LOW);

delayMicroseconds(2);

digitalWrite(pingpin, HIGH);

delayMicroseconds(10);

digitalWrite(pingpin, LOW);

pinMode(pingpin,INPUT);

duration = pulseIn(pingpin, HIGH);

cm = duration \* 0.034 / 2;

if(cm<100) {

digitalWrite(led,HIGH);

}

else

{

digitalWrite(led,LOW);

}

// temp sensor

baselineTemp = 40;

celsius = map(((analogRead(A0) - 20) \* 3.04), 0, 1023, -40, 125);

fahrenheit = ((celsius \* 9) / 5 + 32);

Serial.print(celsius);

Serial.print(" C, ");

Serial.print(fahrenheit);

Serial.println(" F");

if (celsius < baselineTemp) {

digitalWrite(2, LOW);}

if (celsius >= baselineTemp && celsius < baselineTemp + 10) {

digitalWrite(2, HIGH);}

if (celsius >= baselineTemp + 10 && celsius < baselineTemp + 20) {

digitalWrite(2, HIGH);}

if (celsius >= baselineTemp + 20 && celsius < baselineTemp + 30) {

digitalWrite(2, HIGH);}

if (celsius >= baselineTemp + 30) {

digitalWrite(2, HIGH);}

delay(100);

}