#include <Servo.h>

int potD = 0;

int potE = 0;

int led1 = 0;

int i = 0;

int PDsup = 0;

int PDinf = 0;

int PEinf = 0;

int j = 0;

int k = 0;

int ACESSO = 0;

int unnamed = 0;

int q = 0;

Servo servo\_12;

int counter;

int counter4;

void setup()

{

  servo\_12.attach(12, 500, 2500);

  pinMode(9, OUTPUT);

  pinMode(11, OUTPUT);

  pinMode(A0, INPUT);

  Serial.begin(9600);

  servo\_12.write(0);

  for (counter = 0; counter < 5; ++counter) {

    analogWrite(9, 0);

    analogWrite(11, 0);

    delay(100); // Wait for 100 millisecond(s)

    analogWrite(9, 255);

    analogWrite(11, 255);

    delay(100); // Wait for 100 millisecond(s)

  }

  PDsup = 131;

  PDinf = 126;

  PEinf = 63;

  led3 = 1;

  ACESSO = LOW;

  j = 0;

  k = 180;

}

void loop()

{

  j = j;

  k = k;

  potD = map(analogRead(A0), 0, 1023, j, k);

  potE = map(analogRead(A1), 0, 1023, j, k);

  Serial.print("potD: ");

  Serial.print(potD);

  Serial.println(potE);

  ACESSO = ACESSO;

  if (potD >= PDinf && potD <= PDsup) {

    digitalWrite(11, HIGH);

    led1 = led3;

  } else {

    analogWrite(11, ACESSO);

    led1 = 0;

  }

  if (potE >= PEinf && potE <= PEsup) {

    digitalWrite(9, HIGH);

    led2 = led3;

  } else {

    analogWrite(9, ACESSO);

    led2 = 0;

  }

  if (led1 == 1 && led2 == 1) {

    PEsup = 7;

    PEinf = 0;

    PDinf = 0;

    led3 = 2;

    digitalWrite(9, LOW);

    digitalWrite(10, LOW);

    delay(500); // Wait for 500 millisecond(s)

    for (i = 0; i <= 255; i += 5) {

      analogWrite(10, i);

      delay(10); // Wait for 10 millisecond(s)

    }

    delay(500); // Wait for 500 millisecond(s)

    for (i = 255; i >= 0; i -= 5) {

      analogWrite(10, i);

      delay(10); // Wait for 10 millisecond(s)

    }

  }

  if (led1 == 2 && led2 == 2) {

    PEsup = 7;

    PEinf = 0;

    PDsup = 180;

    PDinf = 173;

    led3 = 3;

    for (counter2 = 0; counter2 < 5; ++counter2) {

      digitalWrite(9, HIGH);

      digitalWrite(11, HIGH);

      delay(200); // Wait for 200 millisecond(s)

      digitalWrite(9, LOW);

      delay(200); // Wait for 200 millisecond(s)

    }

    digitalWrite(10, HIGH);

  }

  if (led1 == 3 && led2 == 3) {

    for (counter3 = 0; counter3 < 10; ++counter3) {

      digitalWrite(10, HIGH);

      delay(100); // Wait for 100 millisecond(s)

      digitalWrite(10, LOW);

      delay(100); // Wait for 100 millisecond(s)

    }

    led3 = 4;

    PEsup = 160;

    PEinf = 153;

    PDinf = 23;

  }

  if (led1 == 4 && led2 == 4) {

    led3 = 5;

    PEsup = 93;

    PEinf = 85;

    PDsup = 7;

    PDinf = 0;

    for (counter4 = 0; counter4 < 5; ++counter4) {

      digitalWrite(9, LOW);

      digitalWrite(10, HIGH);

      digitalWrite(11, LOW);

      delay(200); // Wait for 200 millisecond(s)

      digitalWrite(9, HIGH);

      digitalWrite(11, HIGH);

      delay(200); // Wait for 200 millisecond(s)

    }

  }

  if (led1 == 5 && led2 == 5) {

    ACESSO = HIGH;

    PEsup = 180;

    PEinf = 0;

    PDsup = 180;

    PDinf = 0;

    j = 0;

    k = 90;

    digitalWrite(10, HIGH);

    potD = map(analogRead(A0), 0, 1023, j, k);

    Serial.println("OPEN");

    Serial.println("TURN");

    servo\_12.write(potD);

    if (potE >= 0 && potE <= 40 || potE >= 50 && potE < 90) {

      Serial.println("ZAMKA!");

      servo\_12.write(0);

      j = 0;

      k = 180;

      led3 = 1;

      ACESSO = LOW;

      digitalWrite(9, LOW);

      digitalWrite(11, LOW);

    }

  }

  delay(10); // Wait for 10 millisecond(s)

}