

ДОДАТОК А

```
#include <Servo.h>

int pos = 0;
Servo servo_5;

float temp = 0;
int moisture = 0;

int SwB1 = 12;
int SwB2 = 8;
boolean VB1 = false;
boolean VB2 = true;

int pinLed = 3;

const int in11Pin = 11;
const int in10Pin = 10;
const int in9Pin = 9;
const int in6Pin = 6;

int countC = 0;

void Motors(int VAL1,int VAL2,int VAL3,int VAL4);
unsigned long lastServoTime = 0;
const unsigned long servoInterval = 2000;
```

```
void Motors(int VAL1,int VAL2,int VAL3,int VAL4){
  digitalWrite(in11Pin, VAL1);
  digitalWrite(in10Pin, VAL2);
  digitalWrite(in9Pin, VAL3);
  digitalWrite(in6Pin, VAL4);
}
```

```
void Temperature_measurement() {
  int PIN_TMP = analogRead(A5);
  temp = (PIN_TMP * 5.0 / 1024.0 - 0.5) * 100;
  Serial.print("Temp = ");
  Serial.println(temp);
}
```

```
boolean res = true;
```

```
void Servo_function(){
  if(countC <=4){
    if(res == true){
      for (pos = 0; pos <= 90; pos += 1) {
        servo_5.write(pos);
        delay(15);
      }
      res = false;
    }
  }
  else{
    for (pos = 90; pos >= 0; pos -= 1) {
      servo_5.write(pos);
```

```
        delay(15);
    }
    res = true;
    countC++;
}
}
Serial.println(countC);
}

void Moisture_function() {
    digitalWrite(A0, HIGH);
    delay(10);
    moisture = analogRead(A1);
    digitalWrite(A0, LOW);
    Serial.print("Moisture = ");
    Serial.println(moisture);
}

void setup()
{
    Serial.begin(9600);
    pinMode(in11Pin, OUTPUT);
    pinMode(in10Pin, OUTPUT);
    pinMode(in9Pin, OUTPUT);
    pinMode(in6Pin, OUTPUT);
    pinMode(pinLed, OUTPUT);
    servo_5.attach(5, 420, 2500);
    pinMode(SwB1, INPUT);
    pinMode(SwB2, INPUT);
}
```

```

pinMode(A0, OUTPUT);
pinMode(A1, INPUT);
pinMode(A2, OUTPUT);
pinMode(A3, OUTPUT);
}

void loop()
{
  VB1 = digitalRead(SwB1);
  VB2 = digitalRead(SwB2);
  Temperature_measurement();
  Moisture_function();
  if((moisture >= 140 temp >= 50 temp <= -10) && VB1 == 0){ // тут
поменять значения на реальные значения для инкубатора
    tone(A2, 440 * pow(2.0, (constrain(int(map(1, 0, 1023, 36, 84)), 35,
127) - 57) / 12.0), 1000);
    digitalWrite(pinLed, LOW);
    Motors(0,0,0,0);
  }
  else if (VB1 == 0) {
    if(VB2 != 0){
      Motors(0,0,0,0);
    }
    else{
      Motors(1,0,0,0);
    }
  }
  if(temp <= 20.0){ // тут парм. темп
    digitalWrite(pinLed, HIGH);

```

```

}
else if(temp >= 40.0){// тут парм. темп
    digitalWrite(pinLed, LOW);
    Motors(0,0,0,1);
}
else{
    digitalWrite(pinLed, LOW);
}

if(moisture >= 60){// тут парм. влажности
    Motors(0,1,0,1);
}
else if(moisture <= 10){ // тут парм. влажности
    tone(A3, 240 * pow(2.0, (constrain(int(map(1, 0, 1023, 36, 84)), 35,
127) - 57) / 12.0), 10);
}

unsigned long currentTime = millis();
if (currentTime - lastServoTime >= servoInterval) {
    Servo_function();
    lastServoTime = currentTime;
}
}
else{
    digitalWrite(pinLed, LOW);
    Motors(0,0,0,0);
}
}
}

```

