Source code pada Arduino UNO

```
#include <AccelStepper.h>

// Inisialisasi pin untuk modul ULN2003
#define motorPin1 8
#define motorPin2 9
#define motorPin3 10
#define motorPin4 11
#define MotorInterfaceType 8

AccelStepper stepper = AccelStepper(MotorInterfaceType,
motorPin1, motorPin3, motorPin2, motorPin4);

void setup() {
  stepper.setMaxSpeed(500);
  stepper.setAcceleration(900);

  // Inisialisasi Serial Monitor (opsional)
  Serial.begin(9600);
}

void loop() {
  stepper.runToNewPosition(0);
  delay(43200000);
  stepper.runToNewPosition(2048);
  delay(43200000);
  stepper.runToNewPosition(4096);
  delay(43200000);
  stepper.runToNewPosition(2048);
  delay(43200000);
  stepper.runToNewPosition(0);
  delay(43200000);
}
```

Source code pada NodeMCU ESP8266

```
#define BLYNK_PRINT Serial
#define BLYNK_TEMPLATE_ID "TMPL6d_Hi0duP"
#define BLYNK_TEMPLATE_NAME "Inkubator Penetas Telur Berbasis IoT"
#define BLYNK_AUTH_TOKEN "LUnlG2kAc-oGwczmQsaS6oaoi9dtJ8Ui"

#include <Blynk.h>
#include <ESP8266WiFi.h>
#include <BlynkSimpleEsp8266.h>
#include <DHT.h>

char ssid[] = "Luki Kianda";
char pass[] = "qwerty2me";

#define DHTPIN D4
#define DHTTYPE DHT11
#define PIR_PIN D5
#define trigPin D0
#define echoPin D8
#define PUMP_PIN D3
#define BULB_PIN D6
#define FAN_PIN D7

DHT dht(DHTPIN, DHTTYPE);
BlynkTimer timer;

float distance = 0;
int percentage = 0;
float temperature = 0;
float humidity = 0;
int motionDetected = 0;
long duration = 0;

void setup(){
  Serial.begin(9600);
  pinMode(BULB_PIN, OUTPUT);
  pinMode(FAN_PIN, OUTPUT);
  pinMode(trigPin, OUTPUT);
  pinMode(echoPin, INPUT);
  pinMode(PUMP_PIN, OUTPUT);
  digitalWrite(BULB_PIN, LOW);
```

```
  digitalWrite(PUMP_PIN, LOW);
  dht.begin();
  Blynk.begin(BLYNK_AUTH_TOKEN, ssid, pass);
  timer.setInterval(2000L,sendSensorData);
}

void loop(){
  temperature = dht.readTemperature();
  humidity = dht.readHumidity();
  motionDetected = digitalRead(PIR_PIN);

  Blynk.run();
  timer.run();

  digitalWrite(trigPin, LOW);
  delayMicroseconds(2);
  digitalWrite(trigPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(trigPin, LOW);

  duration = pulseIn(echoPin, HIGH);
  distance = duration * 0.0343 / 2;
  percentage = calculatePercentage(distance);

  if (temperature < 37){
    digitalWrite(BULB_PIN, HIGH);
  } else if (temperature > 39){
    digitalWrite(BULB_PIN, LOW);
  }

  if (humidity > 58 ){
    digitalWrite(FAN_PIN, HIGH);
  } else {
    digitalWrite(FAN_PIN, LOW);
  }

  if (motionDetected == HIGH){
    Serial.println("Gerakan terdeteksi!");
  }

  if (percentage < 50 && humidity < 55){
    digitalWrite(PUMP_PIN, HIGH);
    Serial.println("Level air rendah, pompa air diaktifkan");
  } else {
    digitalWrite(PUMP_PIN, LOW);
```

```
86.    Serial.println("Level air normal, pompa air mati");
87.  }
88.
89.  Serial.print("Suhu : ");
90.  Serial.print(temperature);
91.  Serial.print("°C | Kelembapan : ");
92.  Serial.print(humidity);
93.  Serial.println("%");
94.  Serial.print("Jarak Air : ");
95.  Serial.print(distance);
96.  Serial.println("cm");
97.  Serial.print("Level air: ");
98.  Serial.print(percentage);
99.  Serial.println("%");
100.
101.        delay(2000);
102.        }
103.
104.        void sendSensorData(){
105.          Blynk.virtualWrite(V0,temperature);
106.          Blynk.virtualWrite(V1,humidity);
107.          Blynk.virtualWrite(V2,percentage);
108.          Blynk.virtualWrite(V3,motionDetected);
109.        }
110.
111.        int calculatePercentage(float distance){
112.          if (distance >=7){
113.            return 0;
114.          } else if (distance <=6){
115.            return 100;
116.          } else {
117.            int percentage = map(distance, 6, 7, 100, 0);
118.            return percentage;
119.          }
120.        }
```