First started with Stepper motor

Used: <https://randomnerdtutorials.com/esp32-stepper-motor-28byj-48-uln2003/>

* Connected stepper motor to ESP32 GPIO pins
* Connected stepper to ground on ESP32, ground and power on external power supply

Code to make stepper motor turn clockwise and counter clockwise:

#include <Stepper.h>

const int stepsPerRevolution = 2048; // change this to fit the number of steps per revolution

// ULN2003 Motor Driver Pins

#define IN1 19

#define IN2 18

#define IN3 5

#define IN4 17

// initialize the stepper library

Stepper myStepper(stepsPerRevolution, IN1, IN3, IN2, IN4);

void setup() {

// set the speed at 5 rpm

myStepper.setSpeed(10);

// initialize the serial port

Serial.begin(115200);

}

void loop() {

// step one revolution in one direction:

Serial.println("clockwise");

myStepper.step(stepsPerRevolution);

delay(1000);

// step one revolution in the other direction:

Serial.println("counterclockwise");

myStepper.step(-stepsPerRevolution);

delay(1000);

}

Richard: 34, 35, 32, 33 gpio pins are cursed

Arduino code to make servo run:

#include <Servo.h>

Servo myservo; // create servo object to control a servo

// twelve servo objects can be created on most boards

int pos = 0; // variable to store the servo position

void setup() {

myservo.attach(4); // attaches the servo on pin 13 to the servo object

}

void loop() {

for (pos = 0; pos <= 180; pos += 1) { // goes from 0 degrees to 180 degrees

// in steps of 1 degree

myservo.write(pos); // tell servo to go to position in variable 'pos'

delay(15); // waits 15ms for the servo to reach the position

}

for (pos = 180; pos >= 0; pos -= 1) { // goes from 180 degrees to 0 degrees

myservo.write(pos); // tell servo to go to position in variable 'pos'

delay(15); // waits 15ms for the servo to reach the position

}

}

\*Need to use servoESP32 library 1.0.2

Arduino code to make “clock”:

#include <Servo.h>

#include <Stepper.h>

const int stepsPerRevolution = 2048; // change this to fit the number of steps per revolution

// ULN2003 Motor Driver Pins

#define IN1 19

#define IN2 18

#define IN3 5

#define IN4 17

// initialize the stepper library

Stepper myStepper(stepsPerRevolution, IN1, IN3, IN2, IN4);

Servo myservo; // create servo object to control a servo

// twelve servo objects can be created on most boards

int pos = 0; // variable to store the servo position

int count = 0;

void setup() {

// set the speed at 10 rpm

myStepper.setSpeed(10);

// initialize the serial port

Serial.begin(115200);

myservo.attach(4); // attaches the servo on pin 13 to the servo object

}

void loop() {

Serial.println("clockwise");

myStepper.step(stepsPerRevolution);

for (count = 0; count < 10; count += 1) { // goes from 0 degrees to 180 degrees

// in steps of 1 degree

myservo.write(pos); // tell servo to go to position in variable 'pos'

pos = pos + 1;

delay(15); // waits 15ms for the servo to reach the position

}

if (pos == 180) {

for (pos = 180; pos >= 0; pos -= 1) { // goes from 180 degrees to 0 degrees

myservo.write(pos); // tell servo to go to position in variable 'pos'

delay(15); // waits 15ms for the servo to reach the position

}

}

delay(100);

}

Circuit diagram: