#include <AccelStepper.h>

// Define motor connections

#define X\_STEP\_PIN 2

#define X\_DIR\_PIN 5

#define Y\_STEP\_PIN 3

#define Y\_DIR\_PIN 6

// Define laser control pin

#define LASER\_PIN 12

// Create stepper motor objects

AccelStepper stepperX(AccelStepper::DRIVER, X\_STEP\_PIN, X\_DIR\_PIN);

AccelStepper stepperY(AccelStepper::DRIVER, Y\_STEP\_PIN, Y\_DIR\_PIN);

void setup() {

// Set up motor parameters

stepperX.setMaxSpeed(1000.0);

stepperX.setAcceleration(500.0);

stepperY.setMaxSpeed(1000.0);

stepperY.setAcceleration(500.0);

// Set up laser pin

pinMode(LASER\_PIN, OUTPUT);

}

void loop() {

// Move the motors to a specific position

moveMotorToPosition(&stepperX, 1000); // Move to X position 1000

moveMotorToPosition(&stepperY, 500); // Move to Y position 500

// Turn on the laser for a short duration

digitalWrite(LASER\_PIN, HIGH);

delay(1000); // Laser on for 1 second

// Turn off the laser

digitalWrite(LASER\_PIN, LOW);

// Move back to the home position

moveMotorToPosition(&stepperX, 0);

moveMotorToPosition(&stepperY, 0);

// Repeat the process for engraving more patterns

}

void moveMotorToPosition(AccelStepper \*stepper, long targetPosition) {

stepper->moveTo(targetPosition);

while (stepper->distanceToGo() != 0) {

stepper->run();

}

}