/*Example sketch to control a stepper motor with the push of a button with
DRV8825 stepper motor driver AccelStepper library and Arduino. More info:
https://www.makerguides.com */

/*The following code uses a momentary push button connected between GND and
digital pin 4 of the Arduino.
When the button is pressed, the motor turns from the closed to the open
position.
When the button is pressed again, it moves back to the closed position.
You could add a homing routine in the setup section with the use of a limit
switch, to set the 0 position.*/

#include <AccelStepper.h>

//Define stepper motor and button connections
#define dirPin 2
#define stepPin 3
#define buttonPin 4

//Define variables

// Variable that stores the state of the button:
int buttonReading;

// State of the blinds, LOW is closed, HIGH is open:
int state = LOW;

// Previous state of the button:
int previous = LOW;

//Create stepper object
AccelStepper stepper(1, stepPin, dirPin);

void setup()
{
  // Begin serial communication:
  Serial.begin(9600);

  // Set buttonPin as an input:
  pinMode(buttonPin, INPUT_PULLUP);

  // Set maximum steps per second:
  stepper.setMaxSpeed(200);

  // Here you could put a homing sequence:
  stepper.setCurrentPosition(0);
}

void loop()
buttonReading = digitalRead(buttonPin);

if (buttonReading == LOW && previous == HIGH) {
  if (state == LOW) {
    state = HIGH;
  } else {
    state = LOW;
  }
}

previous = buttonReading;

if (state == HIGH) {
  // Run to the open position (400):
  while (stepper.currentPosition() != 400)
  {
    stepper.setSpeed(200);
    stepper.runSpeed();
  }
  Serial.println("open");
}

if (state == LOW) {
  // Run to the closed position (0):
  while (stepper.currentPosition() != 0)
  {
    stepper.setSpeed(-200);
    stepper.runSpeed();
  }
  Serial.println("closed");
}