// Include the Arduino Stepper Library

#include <Stepper.h>

const int trigPin = 3;

const int echoPin = 2;

const int detect\_range = 100; // 1 m

const int door\_timer = 10000;

bool is\_opened;

int run\_timer = 0;

long duration;

int distanceCm, distanceInch;

// Number of steps per output rotation

const int stepsPerRevolution = 200;

// Create Instance of Stepper library

Stepper myStepper(stepsPerRevolution, 4, 5, 6, 7);

void setup() {

pinMode(trigPin, OUTPUT);

pinMode(echoPin, INPUT);

is\_opened = false;

myStepper.setSpeed(60);

}

void loop() {

digitalWrite(trigPin, LOW);

delayMicroseconds(2);

digitalWrite(trigPin, HIGH);

delayMicroseconds(10);

digitalWrite(trigPin, LOW);

duration = pulseIn(echoPin, HIGH);

distanceCm= duration\*0.034/2;

if (distanceCm < detect\_range)

{

open\_door();

}

if ((run\_timer > door\_timer) && is\_opened){

close\_door();

}

run\_timer++;

}

void open\_door(){

is\_opened = true;

run\_timer = 0;

myStepper.step(stepsPerRevolution\*5);

delay(500);

}

void close\_door(){

is\_opened = false;

myStepper.step(-stepsPerRevolution\*5);

delay(500);

}