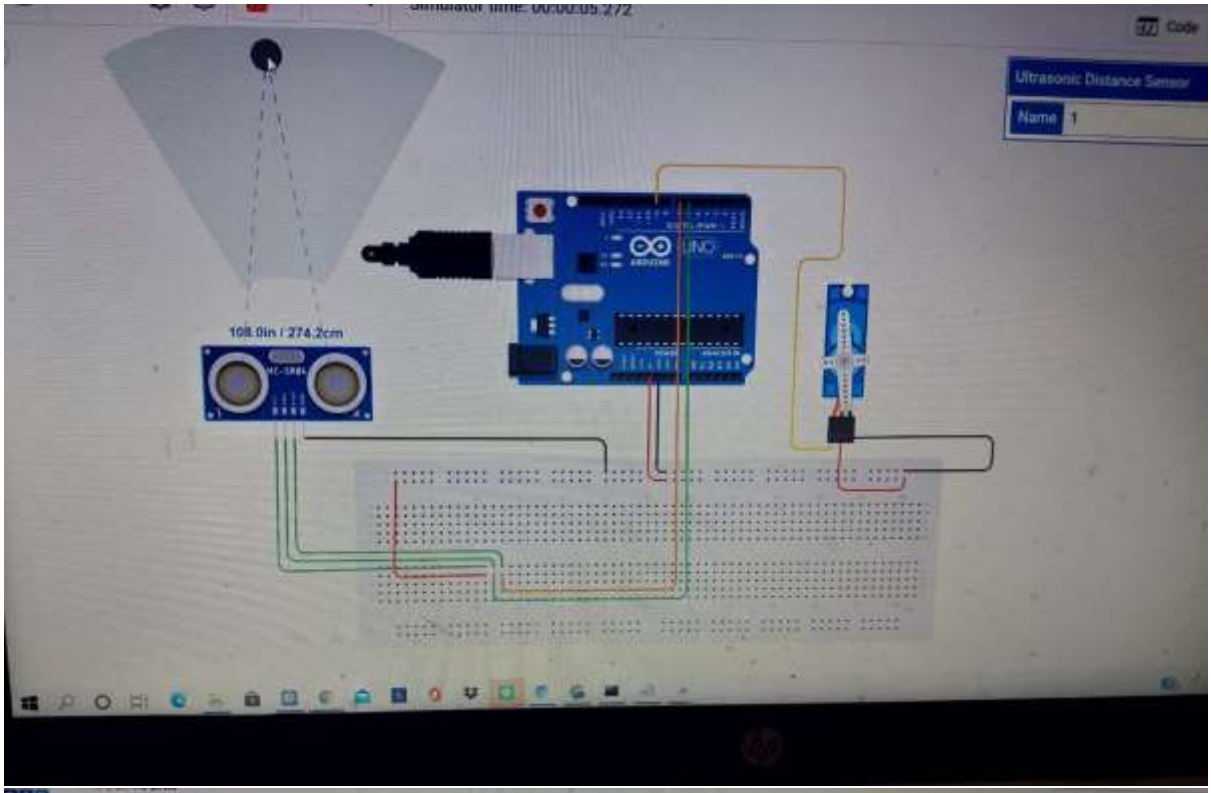
2.Develop an "Automatic garage door opening system". Use an Ultrasonic sensor to detect if there is a vehicle in front of the garage. if any vehicle is detected open the garage door (rotate the servo motor) for some time and close it.

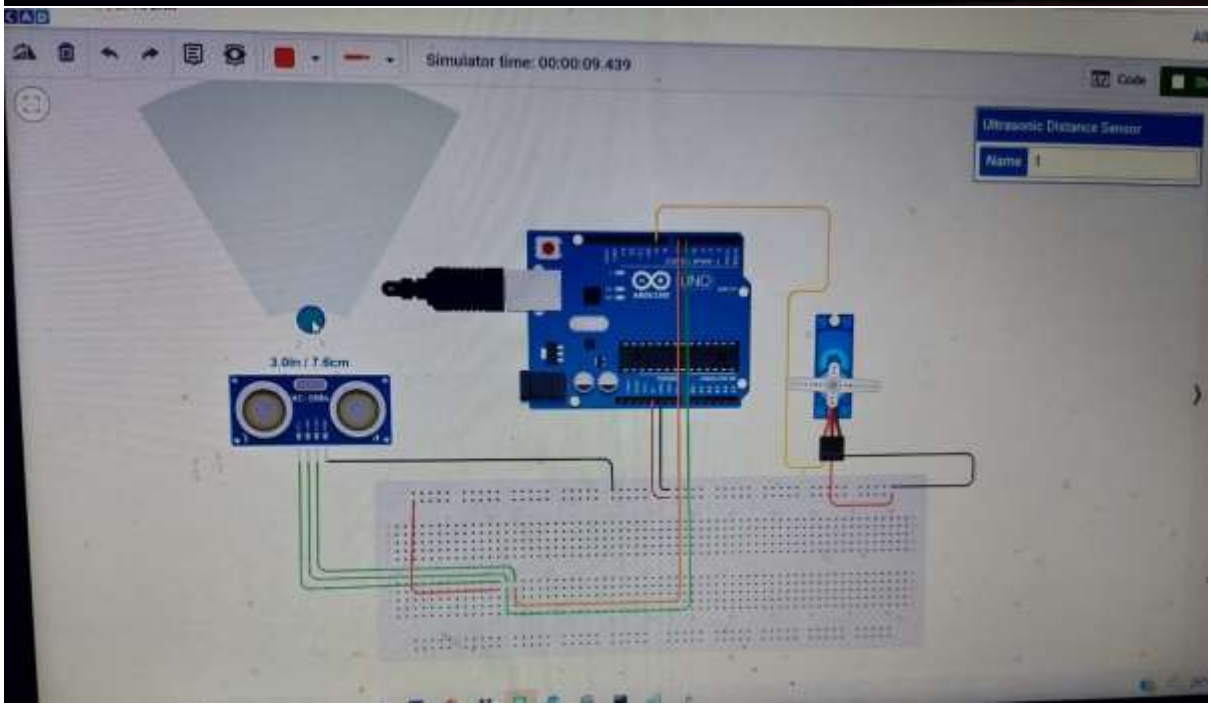
Code:

```
#include<Servo.h>
Servo myservo;
const int trigPin=6;
const int echoPin=7;
long tmeduration;
int distance;



void setup() {

  myservo.attach(9);
  pinMode(trigPin,OUTPUT);
  pinMode(echoPin,INPUT);
  Serial.begin(9600);



}

void loop() {
```

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

tmeduration=pulseIn(echoPin,HIGH);
distance=(0.034*tmeduration)/2;

if(distance<=20){

  myservo.write(90);
  }
  else{
    myservo.write(0);}

  Serial.print("distance:");
    Serial.println(distance);

    delay(1);
```

SIMULATION:


Code
Ultrasonic Distance Sensor
Name 1
108.0in / 274.2cm


Simulator time: 00:00:09.439
Code
Ultrasonic Distance Sensor
Name 1
3.0in / 7.6cm