

NAME:SRIVAIKUNTHAN.N

ASSIGNMENT-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.

PROGRAM CODE:

```
#include<Servo.h>

Servo s;

void setup()
{
    pinMode(2, OUTPUT);
    pinMode(3,INPUT);
    s.attach(5);
    Serial.begin(9600);
}

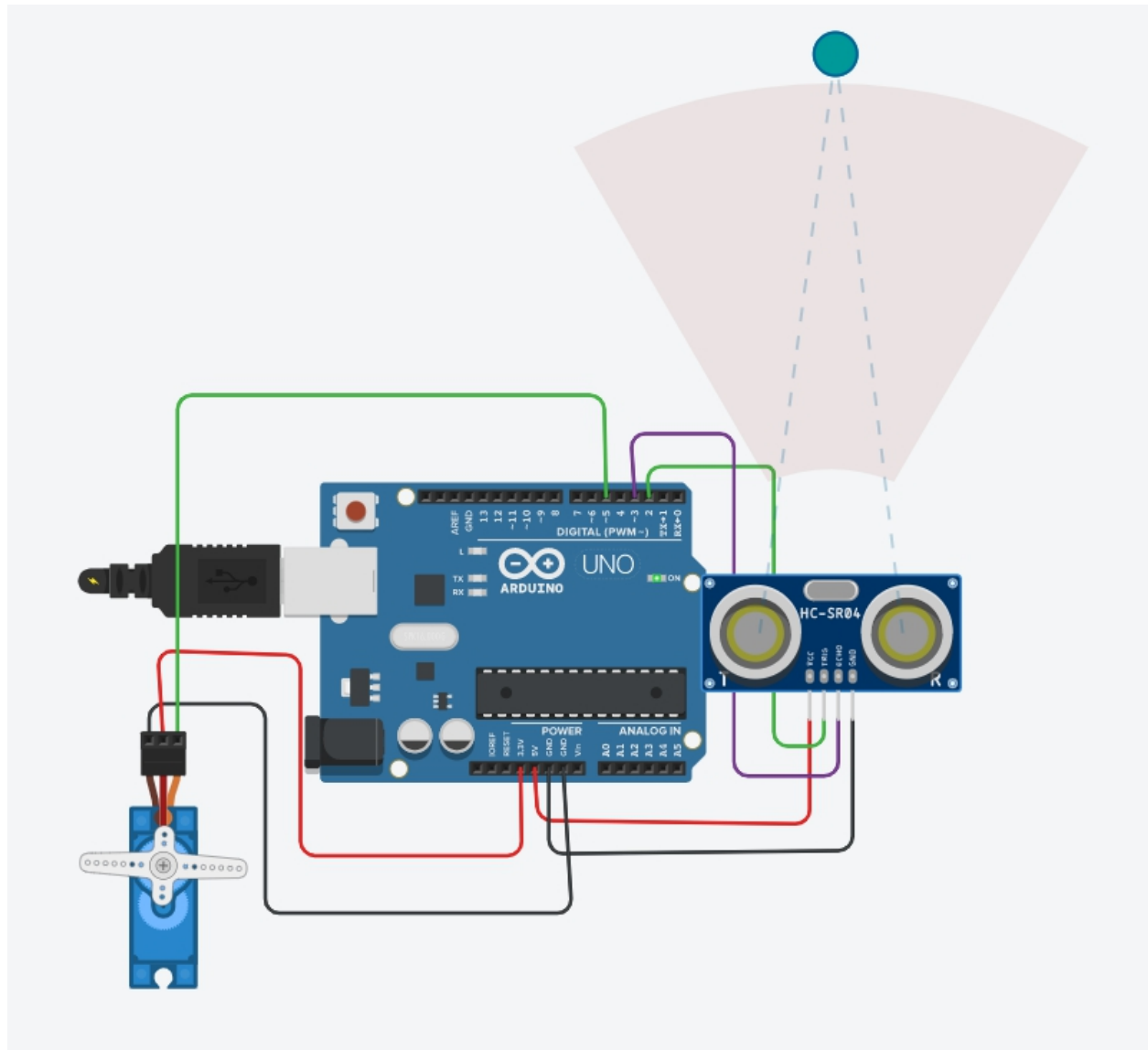
void loop()
{
    s.write(0);
    digitalWrite(2,LOW);
    digitalWrite(2,HIGH);
    delayMicroseconds(10);
    digitalWrite(2,LOW);
    float dur =pulseIn(3,HIGH);
```

```
float dis = (dur * 0.0343)/2;
Serial.print("Distance in cm: ");
Serial.println(dis);
delay(2000);
  s.write(0);
if(dis<320)
{
  Serial.println("The garage is open");
  s.write(90);
  delay(10000);
  s.write(90);
  delay(10000);
}
else
{
  Serial.println("The car is not in range");
  s.write(0);
}

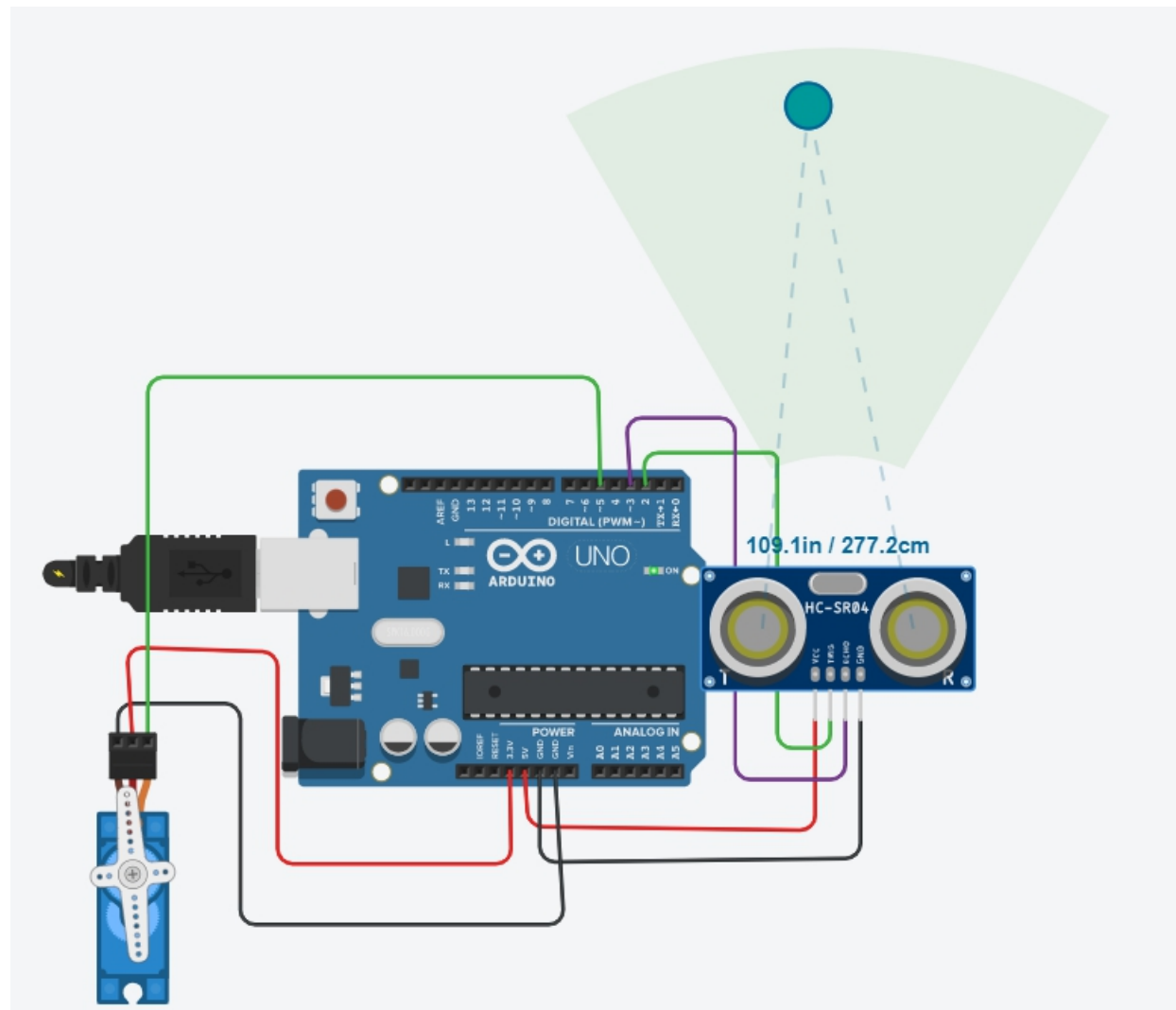
}
```

OUTPUT:

The vehicle is out of range, so the garage remains closed.(servo does not rotate)



The Vehicle is in range and the garage door opens(servo rotates).



The garage door closes again after some delay.(servo rotates back to initial position)

