ASSIGNMENT - 2

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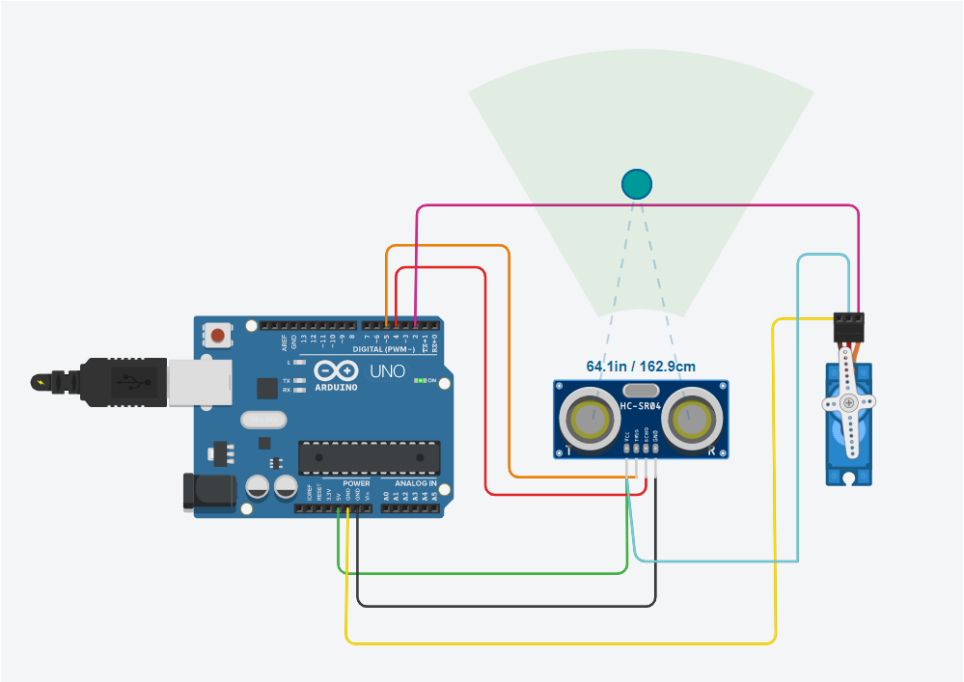
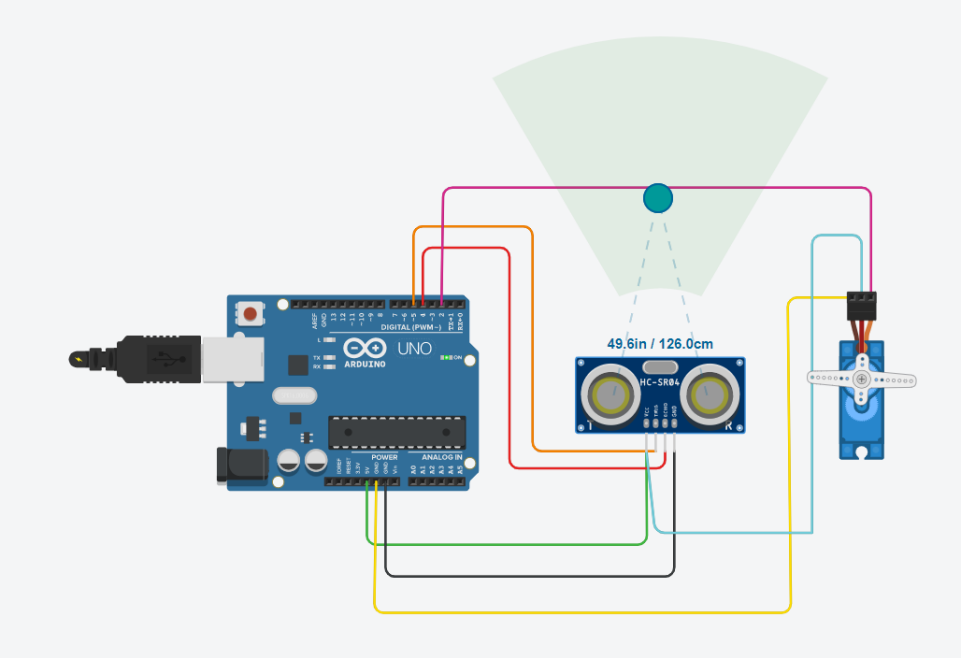
Develop an "Automatic garage door opening system". Use an Ultrasonic sensor to detect if there is a vehicle in front of the garage. if any vehicle is detected open the garage door (rotate the servo motor) for some time and close it.

Screenshot -





CODE -

```
#include<Servo.h> // include Servo header file in the code
Servo s; //
void setup()
{
  Serial.begin(9600);
  pinMode(5, OUTPUT); // set arduino pin 5 to output mode
  pinMode(4, INPUT); // set arduino pin 4 to input mode
  s.attach(2); // attaches the servo on pin 2 to the servo object
  s.write(0); // rotate servo motor to 0 degree
}

void loop()
{
  digitalWrite(5, HIGH);
  delayMicroseconds(10); // generate 10-microsecond pulse to TRIG pin
  digitalWrite(5, LOW);

  float duration = pulseIn(4, HIGH);
  float distance = (duration*0.0343)/2; // calculate the distance


  if(distance <150)
      s.write(90);//rotate servo motor to 90 degree to open garage door

  delay(4000); // delay 4000 milliseconds
  s.write(0); // rotate servo motor to 0 degree to close garage door
```

```
  Serial.print("Distance in cm: ");
  Serial.println(distance);
}
```