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.

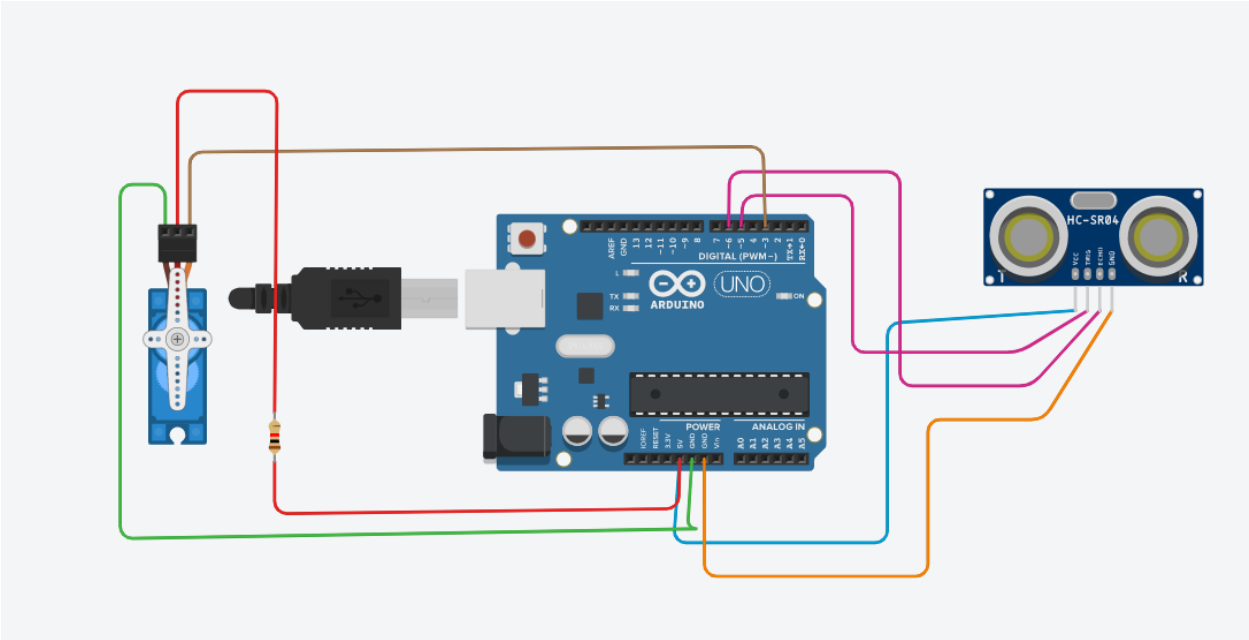
CODE

```
#include<Servo.h>
Servo servo;
int trig=5;
int echo=6;
void setup()
{
  servo.attach(3);
  pinMode(trig, OUTPUT);
  pinMode(echo, INPUT);
  Serial.begin(9600);
  servo.write(0);
}

void loop()
{
  digitalWrite(trig,LOW);
  digitalWrite(trig,HIGH);
  delay(10); // Wait for 1000 millisecond(s)
  digitalWrite(trig,LOW);
```

```
  float dur=pulseIn(echo,HIGH);
  float dis=(dur*0.0343)/2;
  Serial.print("distance in cm;");
  Serial.println(dis);
  if(dis>=250){
    servo.write(180);
    Serial.println("door closed");
    Serial.print("distance ");
    Serial.println(dis);
    delay(500);
  }
  else{
    servo.write(0);
    Serial.println( "door open");
      Serial.print("distance");
    Serial.println(dis);
    delay(500);
  }
}
```

DESIGN



OUTPUT

```
distance in cm;333.45
door closed
distance 333.45
distance in cm;333.41
door closed
distance 333.41
distance in cm;334.22
door closed
distance 334.22
distance in cm;333.41
```

```
distance in cm;167.74
door open
distance167.74
distance in cm;166.85
door open
distance166.85
distance in cm;166.85
door open
distance166.85
distance in cm;167.64
door open
distance167.64
distance in cm;168.41
door open
distance168.41
distance in cm;168.41
door open
distance168.41
```