

Assignment 2

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Duration: 1 Hrs

Objective:

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:

```
// C++ code
//
void setup()
{
  pinMode(2, OUTPUT);
  pinMode(3, INPUT);
  pinMode(12, OUTPUT);
  Serial.begin(9600);
}

void loop()
{
  digitalWrite(2, LOW);

  digitalWrite(2, HIGH);
  delayMicroseconds(20); // Wait for 10 microsecond(s)
  digitalWrite(2, LOW);
  int dur=pulseIn(3,HIGH); // pulsein used for getting duration
  int distance=(dur*0.0343)/2;
  Serial.print("Distance in cm: ");
  Serial.println(distance);
  if(distance<329){
    digitalWrite(12, HIGH);
    delay(1000); // Wait for 1000 millisecond(s)
    digitalWrite(12, LOW);
    delay(1000); // Wait for 1000 millisecond(s)

  }
}
```

