```
#include<Servo.h>
unsigned int rpm;
volatile byte pulses;
unsigned long timeold;
unsigned int pulsesperturn = 20;
int encoder_pin = 2;
int trigpin=13;
int echopin=12;
int led=11;
int servopin=10;
int dt=1000;
int servopos;
int j=0;
int bright=255;
int dim=0;
int intermediate1=90;
int intermediate2=180;
Servo  motor;
void counter()
 {
     pulses++;
 }
void setup()
{
    Serial.begin(4800);
    pinMode(led,OUTPUT);
    pinMode(trigpin,OUTPUT);
    pinMode(echopin,INPUT);
    pinMode(encoder_pin, INPUT);
    attachInterrupt(0, counter, FALLING);
   pulses = 0;
   rpm = 0;
   timeold = 0;
   motor.attach(servopin);
}
void loop()
{
  long duration,distance;
  digitalWrite(trigpin,HIGH);
  delay(dt);
  digitalWrite(trigpin,LOW);
  duration=pulseIn(echopin,HIGH);
  distance=(duration/2.0)*0.034;
  Serial.print("distance:");
  Serial.println(distance);
  if (millis() - timeold >= 1000)
  {
   detachInterrupt(0);
```

```
  rpm = (60 * 1000 / pulsesperturn )/ (millis() - timeold)* pulses;
  timeold = millis();
  pulses = 0;
  Serial.print("RPM = ");
  Serial.println(rpm,DEC);
  if((distance<=30)&&(distance>20))
  {
   analogWrite(led,intermediate1);
   servopos=125;
   if(servopos!=0)
   motor.write(servopos);
   Serial.print("Servo position:");
   Serial.println(servopos);
  }
  else if((distance<=20)&&(distance>10))
  {
   analogWrite(led,intermediate2);
   servopos=130;
   motor.write(servopos);
   if(servopos!=0)
   Serial.print("Servopos:");
   Serial.println(servopos);
  }
  else if(distance<10)
  {
   analogWrite(led,bright);
   servopos=135;
   if(servopos!=0)
   motor.write(servopos);
   Serial.print("Servopos:");
   Serial.println(servopos);
  }
  else
  {
   analogWrite(led,dim);
   servopos=45;
   if(servopos!=0)
   motor.write(servopos);
   Serial.print("Servopos:");
   Serial.println(servopos);
  }
  attachInterrupt(0, counter, FALLING);
  Serial.println();
  }
}
```