

```

#include <Servo.h>
#define in1 2
#define in2 3
#define in3 4
#define in4 7
#define ena 5
#define enb 6
Servo myservo;
int pos = 0;

unsigned long z = 0;

const int trigpin = 11;
const int echopin = 12;
#include <EEPROM.h> // Include the EEPROM library

const int G_LED = 3; // Green LED pin
const int R_LED = 2; // Red LED pin
const int LM35_OUT = A5; // Input pin
float TEMP; // Variable for temperature
long duration;
int distance,cdistance,Rdistance,Ldistance;
void setup(){

  pinMode(in1,OUTPUT);
  pinMode(in2,OUTPUT);
  pinMode(in3,OUTPUT);
  pinMode(in4,OUTPUT);
  pinMode(ena,OUTPUT);
  pinMode(enb,OUTPUT);
  pinMode(trigpin,OUTPUT);
  pinMode(echopin,INPUT);
  myservo.attach(9);
  myservo.write(85);

  Serial.begin(9600); // Begin serial communication
  pinMode(G_LED, OUTPUT); // Make the G_LED pin output
  pinMode(R_LED, OUTPUT); // Make the R_LED pin output
  EEPROM.begin(); // Initialize EEPROM

}

void loop(){

while (z < 100 ){

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    z++;

    abedi();
    naif();

}
off();
    // Read the voltage from the LM35_OUT pin
    float voltage = analogRead(LM35_OUT) * 5.0 / 1024;
    // Convert voltage to temperature (1 Celsius = 10mV)
    TEMP = voltage * 100;

    //Printing on serial monitor
    Serial.print("Temperature = ");
    Serial.print(TEMP);
    Serial.println("Celsius ");
    delay(500);

}

```

```

void abedi(){

    cdistance=ultrasonic();
    if(cdistance>30)
    {

        forward();

    }else
    {
        if(cdistance<=10&&cdistance>2)reverse();
        off();
        myservo.write(35);
        delay(90);
        Rdistance=ultrasonic();
        myservo.write(135);
        delay(90);
        Ldistance=ultrasonic();
        myservo.write(85);
        delay(90);
    }
}

```

```

comparison(Rdistance,Ldistance);
off();
delay(150);
}
Rdistance=0;
Ldistance=0;
cdistance=0;
}
int ultrasonic(void)
{
distance=0;

digitalWrite(trigpin, LOW);
delayMicroseconds(2);

digitalWrite(trigpin,HIGH );
delayMicroseconds(10);
digitalWrite(trigpin, LOW);

duration = pulseIn(echopin,HIGH);

distance = duration*0.034/2;
return distance;

}
void comparison(int r, int l )
{
if(r>25||l>25)
{
if(r>l||r==l)
{
Tright90();
}else if(l>r)
{
Tleft90();
}
}else if(r<25&&l<25)

{
Tleft180();
}
}
}
void forward()
{
analogWrite(ena,130);
analogWrite(enb,130);
digitalWrite(in1, LOW);
digitalWrite(in2, HIGH);

```

```
digitalWrite(in3, LOW);
digitalWrite(in4, HIGH);

}
void off()
{
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);

}
void Tleft90()
{
analogWrite(ena,160);
analogWrite(enb,150);
digitalWrite(in1, LOW);
digitalWrite(in2, HIGH);
digitalWrite(in3, HIGH);
digitalWrite(in4, LOW);
delay(650);

}

void Tright90()
{
analogWrite(ena,150);
analogWrite(enb,160);
digitalWrite(in1, HIGH);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, HIGH);
delay(750);
}
void Tleft180()
{
analogWrite(ena,150);
analogWrite(enb,150);
digitalWrite(in1, LOW);
digitalWrite(in2, HIGH);
digitalWrite(in3, HIGH);
digitalWrite(in4, LOW);
delay(375);
}
void reverse()
{
analogWrite(ena,140);
analogWrite(enb,140);
```

```
digitalWrite(in1, HIGH);  
digitalWrite(in2, LOW);  
digitalWrite(in3, HIGH);  
digitalWrite(in4, LOW);  
delay(450);  
}
```

```
void naif()  
{
```

```
    // Saving TEMP value to EEPROM  
    EEPROM.put(0, TEMP);
```

```
    // Retrieving TEMP value from EEPROM  
    TEMP = EEPROM.get(0, TEMP);
```

```
    // Check the temperature value  
    if (TEMP > 25) {  
        digitalWrite(G_LED, LOW);  
        digitalWrite(R_LED, HIGH);  
    }  
    else  
    {  
        digitalWrite(G_LED, HIGH);  
        digitalWrite(R_LED, LOW);  
    }  
}
```