```
#include <LiquidCrystal.h>
#include <Servo.h>

const int rs = 12, en = 13, d4 = A1, d5 = A2, d6 = A3, d7 = A4;
LiquidCrystal lcd(rs, en, d4, d5, d6, d7);

int servoPin1 = 3;
int servoPin2 = 9;
Servo Servo1;
Servo Servo2;


const int  MRH=4;
const int  MRL=5;

const int MLH=6;
const int MLL=7;




int auto_mode=0;


const int ack_button=2;
const int right_proximty=11;
const int left_proximty=10;
const int sense_proximity=8;

float tempc;
float tempout;

int box1=0;
int box2=0;


void setup() {

  Serial.begin(9600);

  delay(100);
```

```
Servo1.attach(servoPin1);
Servo2.attach(servoPin2);


pinMode(MRH,OUTPUT);
pinMode(MRL,OUTPUT);

pinMode(MLH,OUTPUT);
pinMode(MLL,OUTPUT);




  pinMode(ack_button,INPUT_PULLUP);
  pinMode(right_proximty,INPUT);
  pinMode(left_proximty,INPUT);
  pinMode(sense_proximity,INPUT);



 lcd.begin(16, 2);
  lcd.print("Initializing....");
delay(2000);

 lcd.clear();
        lcd.setCursor(0,0);
       lcd.print("Waiting for ");
        lcd.setCursor(0, 1);

          lcd.print("Command");

          delay(1000);



}

void loop() {


if(auto_mode==1)
```

```
{
 if(digitalRead(right_proximty)==HIGH && digitalRead(left_proximty)==HIGH)
   {

    go_forward();
   }
   else if(digitalRead(right_proximty)==HIGH && digitalRead(left_proximty)==LOW)

   {

    go_right();
   }

 else if(digitalRead(right_proximty)==LOW && digitalRead(left_proximty)==HIGH)

 {


  go_left();
 }

else if(digitalRead(right_proximty)==LOW && digitalRead(left_proximty)==LOW)

  {

     go_stop();

  }

     else
     {

      go_stop();
     }
}



if(digitalRead(sense_proximity)==HIGH )
{
 go_stop();
 delay(2000);
```

```
 auto_mode=0;
 if(box1==1)
 {
  Servo1.write(60);

 }

 if(box2==1)
 {
  Servo2.write(10);

 }
 lcd.begin(16, 2);

lcd.clear();
       lcd.setCursor(0,0);
      lcd.print("Touch Temp:Sensor");
       lcd.setCursor(0, 1);

        lcd.print("and press Button");

        delay(1000);

    measure_temeprature();

        if(digitalRead(ack_button)==LOW)
        {

         if(box1==1)
{
  Servo1.write(10);
  box1=0;
  box2=1;

 }

 if(box2==1)
 {
  Servo2.write(60);
 box2=0;
  box1=0;
```

```
 }
          auto_mode=1;
          go_forward();
          delay(2500);
         }
}


 if (Serial.available() > 0)
 {
  int inByte = Serial.read();


  switch (inByte) {
   case 'D':

   Servo1.write(60);
  delay(1000);
  Servo2.write(10);


     break;

     case 'U':

  Servo1.write(10);
  delay(1000);
  Servo2.write(60);
  delay(1000);


     break;


     case 'A':

  auto_mode=1;
  delay(100);
  lcd.begin(16, 2);
lcd.clear();
      lcd.setCursor(0,0);
     lcd.print("Command Recieved");
```

```
        break;



      case 'S':


digitalWrite(MRH,LOW);
digitalWrite(MRL,LOW);

digitalWrite(MLH,LOW);
digitalWrite(MLL,LOW);
auto_mode=0;



        break;

        case 'F':

digitalWrite(MRH,HIGH);
digitalWrite(MRL,LOW);

digitalWrite(MLH,HIGH);
digitalWrite(MLL,LOW);
        break;


        case 'B':
digitalWrite(MRH,LOW);
digitalWrite(MRL,HIGH);

digitalWrite(MLH,LOW);
digitalWrite(MLL,HIGH);
        break;

        case 'R':
 digitalWrite(MRH,LOW);
```

```
digitalWrite(MRL,HIGH);

digitalWrite(MLH,HIGH);
digitalWrite(MLL,LOW);
      break;


          case 'L':
 digitalWrite(MRH,HIGH);
digitalWrite(MRL,LOW);

digitalWrite(MLH,LOW);
digitalWrite(MLL,HIGH);
      break;




    default:

      delay(100);
   }
  }

}


void go_forward()
{
    digitalWrite(MRH,HIGH);
    digitalWrite(MRL,LOW);

    digitalWrite(MLH,HIGH);
    digitalWrite(MLL,LOW);
}

void go_backward()
{
    digitalWrite(MRH,LOW);
    digitalWrite(MRL,HIGH);
```

```
    digitalWrite(MLH,LOW);
    digitalWrite(MLL,HIGH);
}

void go_right()
{
    digitalWrite(MRH,HIGH);
    digitalWrite(MRL,LOW);

    digitalWrite(MLH,LOW);
    digitalWrite(MLL,HIGH);
}

void go_left()
{
    digitalWrite(MRH,LOW);
    digitalWrite(MRL,HIGH);

    digitalWrite(MLH,HIGH);
    digitalWrite(MLL,LOW);
}

void go_stop()
{
    digitalWrite(MRH,LOW);
    digitalWrite(MRL,LOW);

    digitalWrite(MLH,LOW);
    digitalWrite(MLL,LOW);
}

void measure_temeprature()
{

tempout=analogRead(A0);
tempout=(tempout*500)/1023;
tempc=tempout;
lcd.begin(16, 2);
 lcd.clear();
       lcd.setCursor(0,0);
      lcd.print("Body Temperature");
       lcd.setCursor(0, 1);
```

```
        lcd.print(tempc);
        Serial.println(tempc);
        delay(1000);

}
```