```
#include <Servo.h>            //Importing Servo class for servo motor
#include <LiquidCrystal.h>     //Importing LiquidCrystal class for 16x2 lcd



int personCount=0;    //Counter variable to count the number of persons currently inside

float distance1;      //Distance variable for 1st ultrasonic sensor to detect any person
float time1;          //Time variable for 1st ultrasonic sensor

float distance2;      //Distance variable for 2nd ultrasonic sensor to detect any person
float time2;          //Time variable for 2nd ultrasonic sensor

int uvPin=1;          //Inintialising pin variable for uvlight

int tempPin = A2;     //Initialising output pin for temperature sensor
float tempC=0;        //Varable declaration and initialisation for temperature sensor

int pos = 0;          //Position varable declaration and initialisation for Servo motor
Servo servoMotor_5;   //Creating object of Servo class for Servo motor

int buzzerPin=5;      //Initialising output pin for buzzer(peizo)

int flag1=0;          //Initialising flag1 variable
int flag2=0;          //Initialising flag2 variable

LiquidCrystal lcd(13,12,11,10,9,8);       //Creating object of LiquidCrystal class and declaring pins for 16x2lcd



void setup()
{
  pinMode(buzzerPin, OUTPUT);     //Defining buzzerPin as OUTPUT  pin

  pinMode(tempPin,INPUT);         //Defining buzzerPin as OUTPUT  pin

   pinMode(uvPin,OUTPUT);         //Defining buzzerPin as OUTPUT  pin

  //for ultrasonicsensor1
  pinMode(A0,OUTPUT);             //Defining A0 analog pin as OUTPUT  pin for ultrasonicsensor1
  pinMode(A1, INPUT);            //Defining A1 analog pin as INPUT  pin for ultrasonicsensor1

  //for ultrasonicsensor2
  pinMode(A4,OUTPUT);             //Defining A4 analog pin as OUTPUT  pin for ultrasonicsensor2
  pinMode(A3, INPUT);            //Defining A3 analog pin as INPUT  pin for ultrasonicsensor2

  servoMotor_5.attach(6);         //Attaching object of servo class to pin 6

  lcd.begin(16,2);               //Initialising the lcd object of LiquidCrystal class
  Serial.begin(9600);             //Initialising serial monitor with baud rate at 9600 symbols per second
```

```
  servoMotor_5.write(pos);       //Defining the position of servo object
}

void loop(){

  digitalWrite(uvPin,LOW);    //Setting the uv led at LOW
  delay(1000);

  RGB_color(0,0,0);       //Setting thr rgb color to neutral
  delay(200);

  lcd.clear();          // clearing the lcd

  Serial.println("No. of Persons inside:- "+(String(personCount)));
  lcd.setCursor(0,0);
  lcd.print("No. of Persons");
  lcd.setCursor(0,1);
  lcd.print("inside:- ");
  lcd.print(personCount);
  delay(500);

  digitalWrite(A0,HIGH);
  delayMicroseconds(10);
  digitalWrite(A0,LOW);
  time1=pulseIn(A1,HIGH);          //taking input from 1st ultrasonic sensor
  distance1= (time1*0.0349/2);      //calculating the distance between the object and 1st ultrasonic sensor


  if(distance1>9 && distance1<21){       //checking if the object is between 10 to 20 cms from 1st ultrasonic sensor

    Serial.println("Perrson detected, please wait!!");
    lcd.setCursor(0,0);
    lcd.print("Person Detected!");
    lcd.setCursor(0,1);
    lcd.print("Please wait!");
    delay(500);

          int reading = analogRead(tempPin);        //taking input from temperature sensor
          float voltage = reading * 4.68;           //converting the reading into voltage range from 0 to 1024
          voltage /= 1024.0;                        //decreasing the voltage range to 0 to 100
          tempC = ((voltage - 0.5) * 100)+5.25;     //converting and removing  the error

    lcd.clear();
    lcd.setCursor(0,0);
    lcd.print("TEMPERATURE:- ");
    lcd.setCursor(0,1);
    lcd.print((String(tempC))+((char)178)+"C");

    flag1=1;

  }
```

```
else{

 Serial.println("No Perrson detected!!");
 lcd.clear();
       lcd.setCursor(0,0);
 lcd.print("No Person");
 lcd.setCursor(0,1);
 lcd.print("Detected!");

 flag1=0;
}

if(flag1==1){

       if(tempC>34 && tempC<38){     //checking if the temperature is in normal range

                 RGB_color(0,128,0);         //setting rgb to green color
       delay(200);
  flag2=1;

  Serial.println("Normal");
  lcd.clear();
       lcd.setCursor(0,0);
       lcd.print("Normal");
  delay(1000);

       }
       else{

                RGB_color(255,0,0);        //setting rgb to red color
       delay(200);
       tone(buzzerPin, 900);      //providing buzzer a tune of frequency 900hz
                delay(500);
                 noTone(buzzerPin);         //stoping the voltage supply to buzzer
                delay(500);

  flag2=0;

  Serial.println("ALERT!!!");
  lcd.clear();
       lcd.setCursor(4,0);
       lcd.print("ALERT!!!");
  delay(2000);

       }

 if(flag2==1){

  Serial.println("PLACE YOUR HANDS BELOW THE SENSOR");
  lcd.clear();
       lcd.setCursor(0,0);
```

```
        lcd.print("PLACE YOUR HANDS");
    lcd.setCursor(0,1);
        lcd.print("BELOW THE SENSOR");
    delay(1000);

    digitalWrite(uvPin,HIGH);      //Setting the uv light to high
    delay(1000);

    while(true){

                    digitalWrite(A4,HIGH);
                    delayMicroseconds(10);
                    digitalWrite(A4,LOW);
                    time2=pulseIn(A3,HIGH);
                    distance2= (time2*0.0349/2);

                    if(distance2>9 && distance2<25){       //checking if the object is between 10 to 25 cms from 2nd ultrasonic
sensor

       Serial.println("HOLD YOUR HANDS RIGHT THERE");
                  lcd.clear();
                    lcd.setCursor(0,0);
                    lcd.print("HOLD YOUR HANDS");
       lcd.setCursor(0,1);
                    lcd.print("RIGHT THERE");

                            for (pos = 0; pos <= 90; pos++) {      //rotating the servo motor by 90 deg which will be connected
to sanitizer

                                    servoMotor_5.write(pos);
                  delay(15);

                    }
                    for (pos = 90; pos >= 0; pos--) {      //rotating the servo motor back to initial position

                                    servoMotor_5.write(pos);
                  delay(15);

                    }

       Serial.println("THANK YOU!!! STAY SAFE");
                    lcd.clear();
                       lcd.setCursor(4,0);
                       lcd.print("THANK YOU!!!");
                       lcd.setCursor(4,1);
                       lcd.print(" STAY SAFE");
       personCount++;
       delay(2000);
       break;

     }
```

```
      else{

          Serial.println("PLEASE ADJUST YOUR HANDS");
                    lcd.clear();
                     lcd.setCursor(0,0);
                     lcd.print("PLEASE ADJUST ");
       lcd.setCursor(0,1);
                     lcd.print("YOUR HANDS");
       delay(500);

      }

    }

   }

 }

 flag2=0;
 delay(2000);

}

void RGB_color(int r, int g, int b){
          analogWrite(4,r);
          analogWrite(3,g);
          analogWrite(2,b);

}
```