Smart home using ultrasconic sensor, led sensor

```
int distanceThreshold = 0;
int cm = 0;
int inches = 0;long readUltrasonicDistance(int triggerPin, int echoPin)
{
    pinMode(triggerPin, OUTPUT);     // Clear the trigger
    digitalWrite(triggerPin, LOW);
    delayMicroseconds(2);
    // Sets the trigger pin to HIGH state for 10 microseconds
```

```
    digitalWrite(triggerPin, HIGH);
    delayMicroseconds(10);
    digitalWrite(triggerPin, LOW);
  pinMode(echoPin, INPUT);
    // Reads the echo pin, and returns the
sound wave travel time in microseconds
    return pulseIn(echoPin, HIGH);
}
void setup()
{
    Serial.begin(9600);

    pinMode(2, OUTPUT);
    pinMode(3, OUTPUT);
```

```
    pinMode(4, OUTPUT);
}
void loop()
{
    // set threshold distance to activate
LEDs
    distanceThreshold = 350;
    // measure the ping time in cm
    cm = 0.01723 *
readUltrasonicDistance(7, 6);

// convert to inches by dividing by 2.54
    inches = (cm / 2.54);
    Serial.print(cm);
    Serial.print("cm, ");
```

```
    Serial.print(inches);
    Serial.println("in");
if (cm > distanceThreshold) {
        digitalWrite(2, LOW);
        digitalWrite(3, LOW);
        digitalWrite(4, LOW);
    }
    if (cm <= distanceThreshold && cm >
distanceThreshold - 100) {
        digitalWrite(2, HIGH);
        digitalWrite(3, LOW);
        digitalWrite(4, LOW);
    }
if (cm <= distanceThreshold - 100 && cm >
distanceThreshold - 250) {
```

```
        digitalWrite(2, HIGH);
        digitalWrite(3, HIGH);
        digitalWrite(4, LOW);
    }
    if (cm <= distanceThreshold - 250 && cm
> distanceThreshold - 350) {
        digitalWrite(2, HIGH);
        digitalWrite(3, HIGH);
        digitalWrite(4, HIGH);
    }
  if (cm <= distanceThreshold - 350) {
        digitalWrite(2, HIGH);
        digitalWrite(3, HIGH);
        digitalWrite(4, HIGH);
```

```
    }
    delay(100); // Wait for 100
millisecond(s)
}
```