Assignment -1

Smart home appliances

Assignment Date	09 September 2022
Student Name	Mrs. Anandhi
Student Roll Number	422119106001
Maximum Marks	2 Marks

TASK:

SMART HOME APPLIANCES

PROJECT:

motion and object detection

CODE:

```
int inches = 0;

int cm = 0;
int ma=0;
float lastLight=0;
float light=0;
float lightPersnt=0;
int motion = 0;
int lastMotion=1;

long readUltrasonicDistance(int pin)
{
pinMode(pin, OUTPUT); // Clear the
trigger
digitalWrite(pin, LOW);
delayMicroseconds(2);
// Sets the pin on HIGH state for 10 micro
seconds
digitalWrite(pin, HIGH);
delayMicroseconds(10);
digitalWrite(pin, LOW);
pinMode(pin, INPUT);
```

```
// Reads the pin, and returns the sound
wave travel time in microseconds
return pulseIn(pin, HIGH);
}

void setup()
{
pinMode(5, INPUT); // Destance
pinMode(A0, INPUT); //LIGHT
pinMode(8, INPUT); // MOTION

Serial.begin(9600);

}

void loop()
{

// measure the ping time in cm
cm = 0.01723 * readUltrasonicDistance(5);
// convert to inches by dividing by 2.54
inches = (cm / 2.54);
if(cm != ma)
{
Serial.print(inches);
Serial.print("in, ");
Serial.print(cm);
Serial.println("cm ");
ma=cm;}

light = analogRead(A0)-205;
lightPersnt= 100-(100*(light/818));
if(light != lastLight)
{

Serial.print(lightPersnt);Serial.println("%");
lastLight=light;
```

```
}
motion=digitalRead(8);
if(motion!=lastMotion)
{
Serial.println(motion);
lastMotion=motion;
}
if(cm>=150)
{
digitalWrite(2,HIGH);
}
else {digitalWrite(2,LOW);}

if(lightPersnt>=50)
{
digitalWrite(3,HIGH);
}
else {digitalWrite(3,LOW);}

if(lastMotion>=0.50)
{
digitalWrite(4,HIGH);
}
else {digitalWrite(4,LOW);}

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

CIRCUIT: