ASSIGNMENT-1

DATE	19 SEPTEMBER
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MAXIMUM MARK	2

PROGRAM

```
 #include <Servo.h>
Servo Servo_motor;
int led_1 = 7;
int led_2 = 8;
int led_3 = 9;
int led_4 = 10;
int Temp = A0;
int Motion = 6;
int Buzzer = 5;
int trigPin = 2;
int echoPin = 3;
long distance;
long duration;
const int hot = 87;
const int cold = 75;
void setup()
{
Servo_motor.attach(4);
pinMode(Temp, INPUT);
pinMode(Motion, INPUT);
pinMode(trigPin, OUTPUT);
pinMode(echoPin, INPUT);
pinMode(led_1, OUTPUT);
pinMode(led_2, OUTPUT);
pinMode(led_3, OUTPUT);
pinMode(led_4, OUTPUT);
pinMode(Buzzer, OUTPUT);
}
void loop()
{
int sensor = analogRead(A2);
float voltage = (sensor / 1024.0) * 5.0;
float tempC = (voltage - .5) * 100;
float tempF = (tempC * 1.8) + 32;
if
```

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```
digitalWrite(7, HIGH);
digitalWrite(8, LOW);
digitalWrite(9, LOW);
}
else if (tempF >= hot)
{
digitalWrite(7, LOW);
digitalWrite(8, LOW);
digitalWrite(9, HIGH);
tone(5, 1000);
delay(2000);
noTone(5);
delay(2000);
}
else
{
digitalWrite(7, LOW);
digitalWrite(8, HIGH);
digitalWrite(9, LOW);
}
delay(10);
digitalWrite(trigPin, LOW);
delayMicroseconds(2);
digitalWrite(trigPin, HIGH);
delayMicroseconds(10);
digitalWrite(trigPin, LOW);
duration = pulseIn(echoPin, HIGH);
distance = duration*0.034/2;
Servo_motor.write(0);
if(distance <= 10)
{
Servo_motor.write(90);
}
int reading = digitalRead(Motion);
if (reading == HIGH)
{
digitalWrite(led_4, HIGH);
}
else {
digitalWrite(led_4, LOW);
}
}
```

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