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Topic:smart home application

Code:

```
int lightsensor = A0;
```

```
int pirsensor = 2;
```

```
int buzzer = 4;
```

```
int led=8;
```

```
void setup()
```

```
{
```

```
  pinMode(lightsensor, INPUT);
```

```
  pinMode(pirsensor, INPUT);
```

```
  pinMode(buzzer, OUTPUT);
```

```
  pinMode(led,OUTPUT);
```

```
  Serial.begin(9600);
```

```
}
```

```
void loop()
{
  lightsensor = analogRead(lightsensor);
  pirsensor = digitalRead(pirsensor);
  if (lightsensor < 700) {
    if (pirsensor == HIGH) {
      digitalWrite(led,HIGH);
      digitalWrite(buzzer,HIGH);
      delay(1000);
    } else {
      digitalWrite(buzzer, LOW);
      digitalWrite(led,LOW);
      delay(1000); //
    }
  } else {
    digitalWrite(buzzer, LOW);
    digitalWrite(led,LOW);
    Serial.println(lightsensor);
  }
  delay(1000);
}
```

The image shows a Proteus simulator environment. On the left, an Arduino Uno microcontroller is connected to a breadboard circuit. The breadboard contains a PIR sensor module and a buzzer. Wires connect the sensor's VCC to the Arduino's 5V pin, its GND to the Arduino's GND pin, and its OUT pin to the buzzer's trigger pin. The buzzer's other terminal is connected to the Arduino's 5V pin. A USB cable is plugged into the Arduino's USB port.

In the center, a floating window displays the PIR sensor's status:

PIR Sensor	
Name	pirsensor
Target X	108.19
Target Y	-178.67
Target V	-235.05

On the right, the C++ code for the project is displayed:

```

1 // C++ code
2 //
3 int lightsensor = A0;
4 int pirsensor = 2;
5 int buzzer = 4;
6 int led=3;
7
8 void setup()
9 {
10   pinMode(lightsensor, INPUT);
11   pinMode(pirsensor, INPUT);
12   pinMode(buzzer, OUTPUT);
13   pinMode(led, OUTPUT);
14   Serial.begin(9600);
15 }
16
17 void loop()
18 {
19   lightsensor = analogRead(lightsensor);
20   pirsensor = digitalRead(pirsensor);
21   if (lightsensor < 700) {
22     if (pirsensor == HIGH) {
23       digitalWrite(led,HIGH);
24       digitalWrite(buzzer,HIGH);
25       delay(1000);
26     } else {
27       digitalWrite(buzzer, LOW);
28       digitalWrite(led,LOW);
29       delay(1000); // Wait for 1000 milliseconds
30     }
31   } else {
32     digitalWrite(buzzer, LOW);
33     digitalWrite(led,LOW);
34     Serial.println(lightsensor);
35   }
36 }
37
38 Serial Monitor
  
```