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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 screenshot displays a Proteus simulation environment. On the left, an Arduino Uno microcontroller is connected via jumper wires to a breadboard. The breadboard contains a PIR sensor module, a buzzer, and an LED. A floating-point display window shows the following values:

| Name | Value |
|------------|---------|
| piresensor | |
| Target X | 108.19 |
| Target Y | -178.67 |
| Target Z | -235.05 |

To the right, the C++ code for the Arduino is shown:

```
// C++ code
//
int lightsensor = A0;
int piresensor = 2;
int buzzer = 4;
int led=3;

void setup()
{
    pinMode(lightsensor, INPUT);
    pinMode(piresensor, INPUT);
    pinMode(buzzer, OUTPUT);
    pinMode(led,OUTPUT);
    Serial.begin(9600);
}

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