Smart Chair Locator: Arduino C Code

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```
int seat1 = A0;
int seat2 = A1;
int seatSensor1 = 2;
int seatSensor2 = 3;
int led1 = 8;
int led2 = 9;
int thresholdValue = 400;

void setup() {
    // Set pin modes
    pinMode(seat1, INPUT);
    pinMode(seat2, INPUT);
    pinMode(seatSensor1, INPUT);
    pinMode(seatSensor2, INPUT);
    pinMode(led1, OUTPUT);
    pinMode(led2, OUTPUT);

    // Initialize serial communication for debugging
    Serial.begin(9600);
}

void loop() {

    Serial.print(analogRead(seat1));
    Serial.print("\t");
    Serial.println(analogRead(seat2));
    Serial.print(digitalRead(seatSensor1));


    digitalWrite(led1, LOW);
    digitalWrite(led2, LOW);

    // Logic for determining which seat is occupied
    if (!digitalRead(seatSensor1) && analogRead(seat1) > thresholdValue) {
        digitalWrite(led1, HIGH);  // Turn on LED 1 for seat 1
```

```
        digitalWrite(led2, LOW);   // Ensure LED 2 is off
    }

    if (!digitalRead(seatSensor2) && analogRead(seat2) > thresholdValue) {
        digitalWrite(led2, HIGH);  // Turn on LED 2 for seat 2
        digitalWrite(led1, LOW);   // Ensure LED 1 is off
    }

    // Logic for indicating available seats
    if (!digitalRead(seatSensor1) &&
    analogRead(seat1) < thresholdValue &&
    analogRead(seat2) > thresholdValue) {
        digitalWrite(led2, HIGH); // Indicate seat 2 is occupied
        digitalWrite(led1, LOW);  // Indicate seat 1 is available
    }

    if (!digitalRead(seatSensor2) &&
    analogRead(seat2) < thresholdValue &&
    analogRead(seat1) > thresholdValue) {
        digitalWrite(led1, HIGH); // Indicate seat 1 is occupied
        digitalWrite(led2, LOW);  // Indicate seat 2 is available
    }
}
```