# Debugging Fun Sensor4

**Scenario:** Tad wrote the following code for his Human Sensor Project.

He wants to see:

- lightPattern1() for sensor readings greater than 1000
- lightPattern2() for readings between 750 and 1000 including 1000
- lightPattern3() for readings between 500 and 750 including 750
- lightPattern4() for readings 500 and below

Help him debug his code:

```
loop() {
    sensorValue = analogRead(sensor);
    if (sensorValue > 1000) {
            lightPattern1();
    }
       if (sensorValue < 750 && sensorValue >= 1000) {
        lightPattern2();
       }
       if (sensorValue < 500 && sensorValue >= 750) {
        lightPattern3();
       }
       if (sensorValue <= 500) {
        lightPattern4();
    }
}
```

1. **Predict:** Looking at the code snippet above, what do you think the behavior might be?

2. **Test:** Discuss with another group or test out the code. What does the code actually do?

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3. **Identify the bug:** Why do you think the code behaves this way instead of as intended?

4. **Revise:** How might you fix the code? Write your revised code or edit the code snippet at the top to fix the bug.

5. **Retest:** Test your solution and revise again if necessary.

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