**Experiment Report - 56 - test3\_TemperatureController**

1. **Summary Table of Errors Found**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Error ID | Line Number | Error Type | Self-Detected? | Peer 1 Found? | Peer 2 Found? |
| E01 | line 12 | Syntax | √ | × | × |
| E02 | line 32 | Logic | √ | √ | √ |
| E03 | line 40 | Logic | √ | × | × |
| E04 | line 50 | Semantic | × | × | √ |

Additional Errors Found by Self: 0

Self-Review Detection Rate: 75%

Peer 1 Detection Rate: 25%

Peer 2 Detection Rate: 50%

1. **Source Code**
2. package a;
3. import com.code\_intelligence.jazzer.api.FuzzedDataProvider;
4. class t05 {
5. public static void fuzzerTestOneInput(FuzzedDataProvider data) {
6. // generate 1 random double value
7. double a = data.consumeDouble();
8. // call target method
9. c05\_TemperatureController controller = new c05\_TemperatureController(20.0);
10. controller.setTemperature();
11. System.out.println("Testing with: a=" + a);
12. }
13. }
14. public class c05\_TemperatureController {
15. private double temperature;
16. private final double MIN\_TEMP = 16.0;
17. private final double MAX\_TEMP = 23.0;
18. public c05\_TemperatureController(double initialTemp) {
19. this.temperature = initialTemp;
20. }
21. public void setTemperature(double newTemp) {
22. this.temperature = newTemp;
23. if (newTemp < MIN\_TEMP) {
24. System.out.println("Warning: Temperature too low! Activating heating system...");
25. } else if (newTemp >= MAX\_TEMP) {
26. System.out.println("Warning: Temperature too high! Activating cooling system...");
27. } else {
28. System.out.println("Temperature is stable. No action required.");
29. }
30. }
31. public double getTemperature() {
32. return initialTemp;
33. }
34. public static void main(String[] args) {
35. // testcase-VT:
36. c05\_TemperatureController controller1 = new c05\_TemperatureController(20.0);
37. controller1.setTemperature(18.3); //newTemp >= 16 && newTemp <= 23
38. c05\_TemperatureController controller2 = new c05\_TemperatureController(20.0);
39. controller2.setTemperature(37.433); //newTemp > 23
40. c05\_TemperatureController controller3 = new c05\_TemperatureController(20.0);
41. controller3.setTemperature(10); //newTemp < 16
43. // testcase-FT:
44. // c05\_TemperatureController controller1 = new c05\_TemperatureController(20.0);
45. // controller1.setTemperature(-1.7976931348623157E308);
46. // c05\_TemperatureController controller2 = new c05\_TemperatureController(20.0);
47. // controller2.setTemperature(1.1209145429141497E308);
48. // c05\_TemperatureController controller3 = new c05\_TemperatureController(20.0);
49. // controller3.setTemperature(0);

52. }
53. }