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**A test that reveals a bug has succeeded, not failed. —Boris Beizer**

Class, Section \_\_\_\_\_

Total Points (Out of 100 points) \_\_\_\_\_

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**Instruction:**

1. Answer to the problem on a **PDF file (PDF file only)** and save it as HW#\_YOUR-Name#.PDF
  2. Submit the **PDF** file to eLearning before the due date
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Design, implement, and run PC (**P**redicate **C**overage), CC (**C**lause **C**overage) and CACC (**C**orrelated **A**ctive **C**lause **C**overage) tests for the method **turnHeaterOn** in class **Thermostat.java** (from the book - ch8)

1. (5 points) List **all predicates** in the method. How many have one clause, two clauses, three clauses, and more than three?
2. For each predicate, write the **truth table** and choose rows from the truth tables that **satisfy PC**.
  - a. (10 points) You must submit the truth tables and clearly mark which rows will be used. These are your abstract tests.
  - b. (5 points) For each abstract test, create input values that satisfy the truth assignments and that reach the predicate.
  - c. (10 points) Implement each test in Junit file "**ThermostatTest\_PC.java**". Include comments that state which predicate and which truth assignment (row in the truth table) is being implemented.
  - d. (5 points) Run your tests.
3. For each predicate, write the **truth table** and choose rows from the truth tables that **satisfy CC**.
  - a. (10 points) You must submit the truth tables and clearly mark which rows will be used. These are your abstract tests.
  - b. (5 points) For each abstract test, create input values that satisfy the truth assignments and that reach the predicate.
  - c. (10 points) Implement each test in Junit file "**ThermostatTest\_CC.java**". Include comments that state which predicate and which truth assignment (row in the truth table) is being implemented.
  - d. (5 points) Run your tests.
4. For each predicate, write the **truth table** and choose rows from the truth tables that **satisfy CACC**.
  - a. (10 points) You must submit the truth tables and clearly mark which rows will be used. These are your abstract tests.
  - b. (5 points) For each abstract test, create input values that satisfy the truth assignments and that reach the predicate.
  - c. (10 points) Implement each test in Junit file "**ThermostatTest\_CACC.java**". Include comments that state which predicate and which truth assignment (row in the truth table) is being implemented.
  - d. (5 points) Run your tests.

Submit the following on paper:

- A write-up that describes your tests
  - A printout of your JUnit tests. (ThermostatTest\_PC.java, ThermostatTest\_CC.java, ThermostatTest\_CACC.java)
  - Screen shots showing the results of running all your tests.
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