

TME4 Part 1 Test Plan

Testing using Event file example1.txt

In this example the methods tested LightOn(), LightOff(), WaterOn(), WaterOff(), Bell.action(), ThermostatNight.action, ThermostatDay.action, Terminate.action()

Input:

- Running Event file example1.txt

Output:

- Restarting system
- Thermostat on night setting
- Light is on
- Light is off
- Greenhouse water is on
- Greenhouse water is off
- Bing!
- Thermostat on day setting
- Terminating

Result:

- All ran as expected
- No error or dump files were created

Testing using Event file example2.txt

In this example we test the new methods WaterOn(), WaterOff()

Input:

- Running Event file example2.txt

Output:

- Thermostat on night setting
- Light is on
- Light is off
- Greenhouse water is on
- Fan is on
- Fan is off
- Greenhouse water is off
- Thermostat on day setting
- Terminating

Result:

- All ran as expected
- No error or dump files were created

Testing using Event file example3.txt

In this example we test the new methods WindowMalfunction.action(), repairWindow() generateDebugLog()

Input:

- Running Event file example3.txt

Output:

- Thermostat on night setting
- Bing!
- Light is on
- Bing!
- Bing!
- Light is off
- Bing!
- Bing!
- Greenhouse water is on
- Fan is on
- Fan is off
- Greenhouse water is off
- Thermostat on day setting
- Window Malfunctioning!
- *****
- Emergency Shutdown
- *****
- Displaying Current Greenhouse Status
- [Thermostat is Day]
- [Lights is false]
- [Water is false]
- [Fan is false]
- [Window is Malfunctioning]

Result:

- There was a problem with the windows this was intentional for testing.
- Error was logged into error.log and dump.out file was created as a result

Content of error.log file:

- Shutting down Greenhouse Controls. Contact System Administrator
- Error code: 1 - occurred Mon Apr 29 18:35:28 MDT 2019

Testing using Event file example4.txt

In this example we test the new methods PowerOut.action(), fixPower(), generateDebugLog().lo

Input:

- Running Event file example4.txt

Output:

- Restarting system
- Thermostat on night setting
- Light is on
- Light is off
- Greenhouse water is on
- Greenhouse fans are on
- Greenhouse fans are off
- Bing!
- Greenhouse water is off
- The power has gone out!
- Logged:
- [2019-03-14 20:40:52] The power has gone out!
- Terminating

Result:

- This test resulted in the system Terminating due to power outage
- dump.out was created and the error was logged into error.txt as a result and Termination was handled as expected.

Testing Restore using the generated dump.out

In this example we will test the Restore mechanism and the methods openCheckAndReadDumpFile(), readGreenhouseControllerStatesDumpFile()

Input:

- Running dump.out using restore function

Output:

- *****
- Repairing Issue
- *****
- Power Fixed.
- *****
- Issue Repaired Resuming Program
- *****
- Terminating