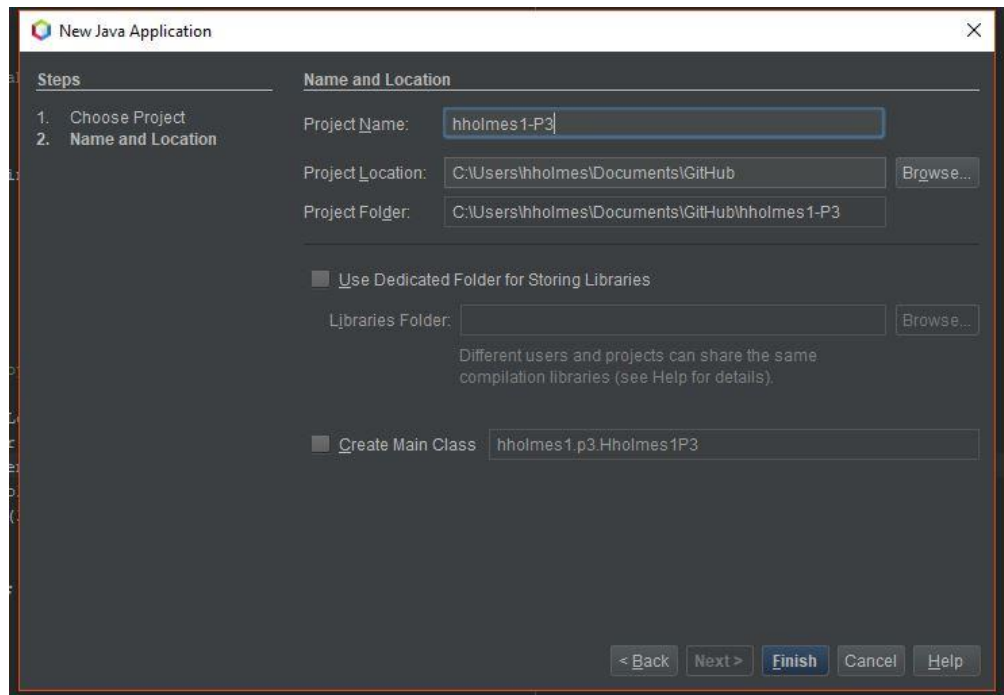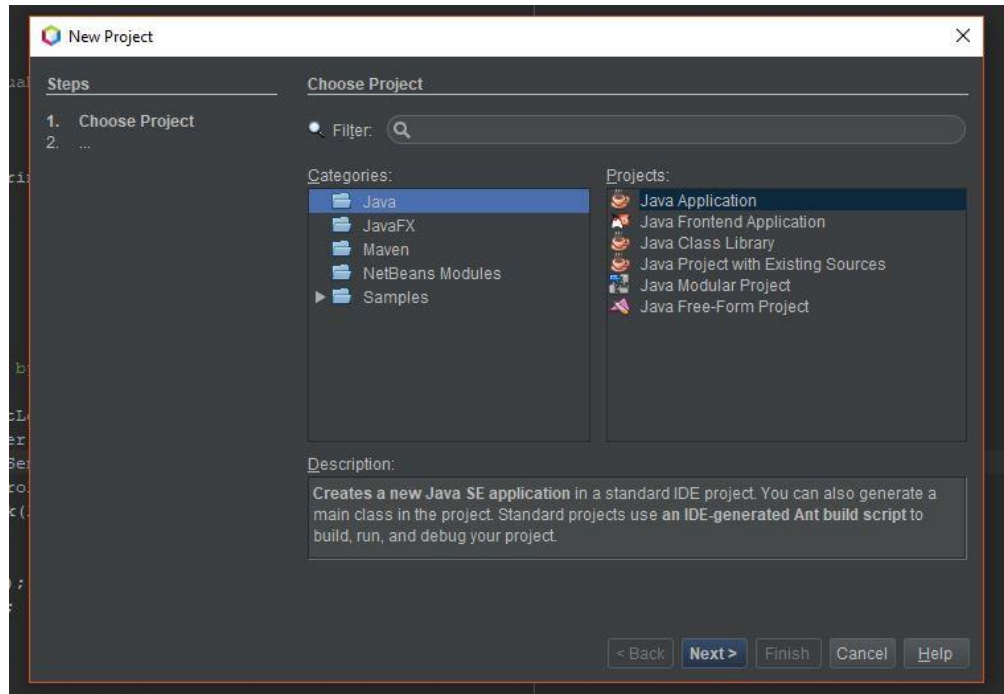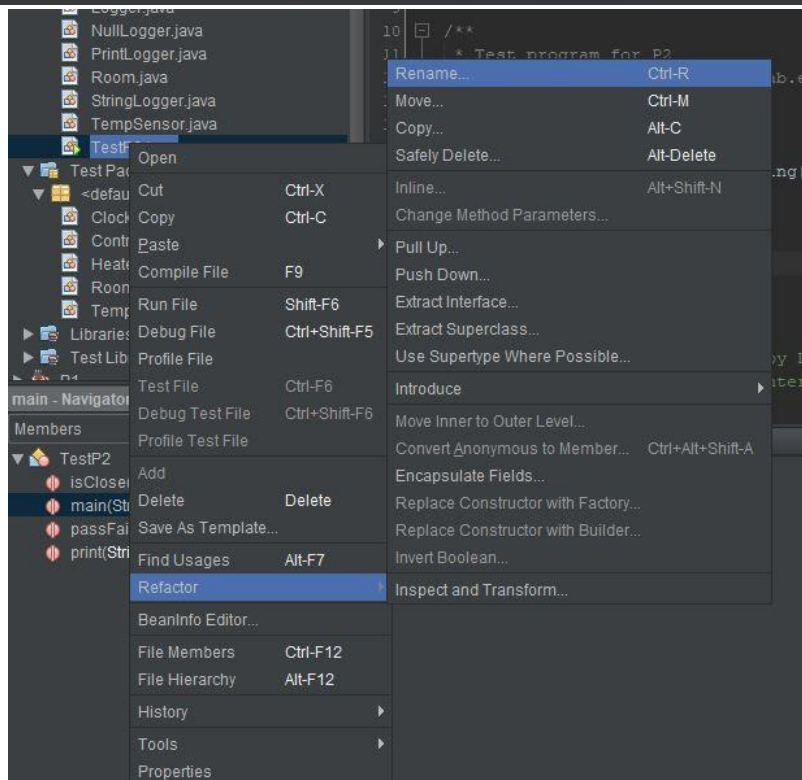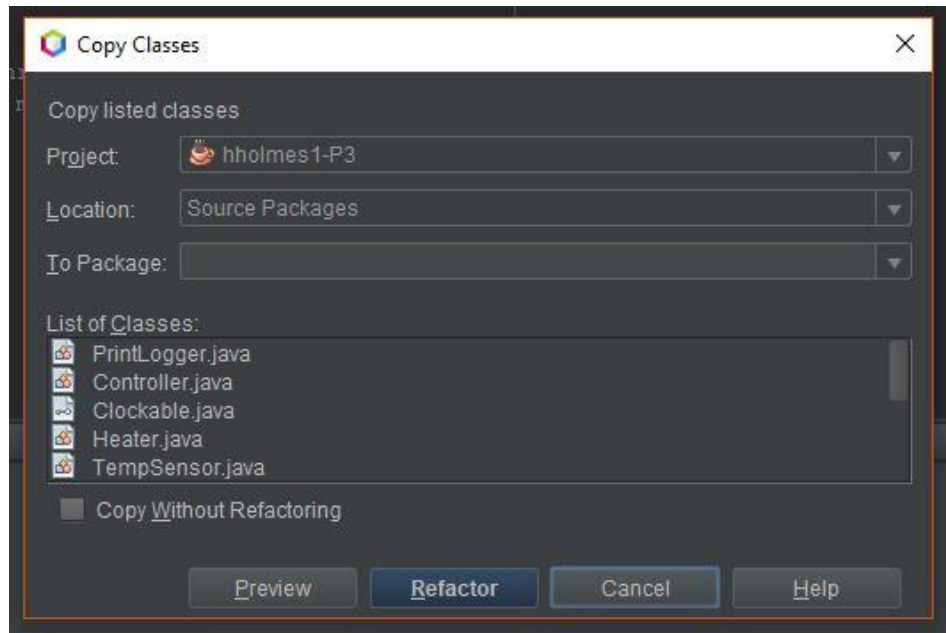Narrative Log hholmes1-P3 EE 333

1. Made corrections to P2
2. Created hholmes1-P3 (New File Dialog)

3. Moved .java files from P2 to P3 Source files and Test files. Required refactoring files. Renamed TestP2 to TestP3

4. Re-ran unit tests from P2 to verify that files still work after moving to P3
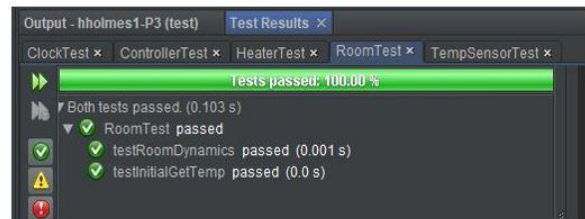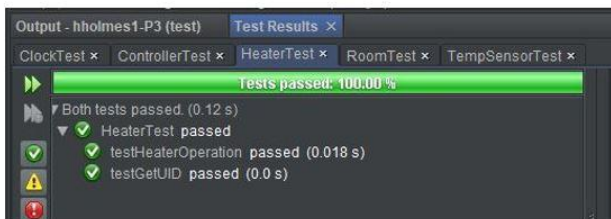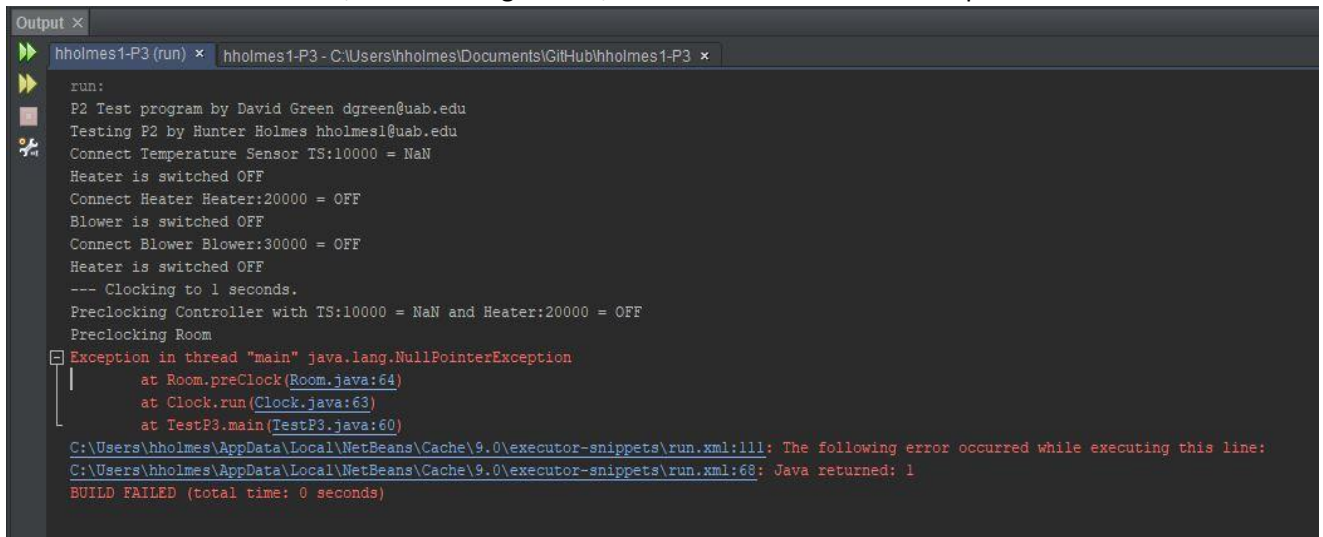
5. Create Blower.java class
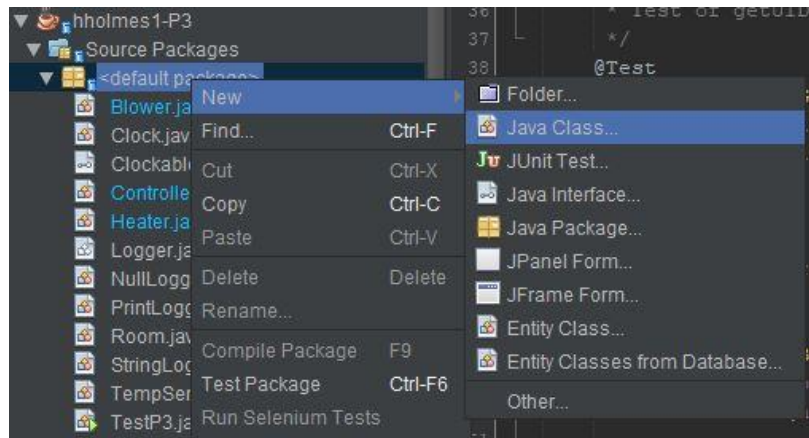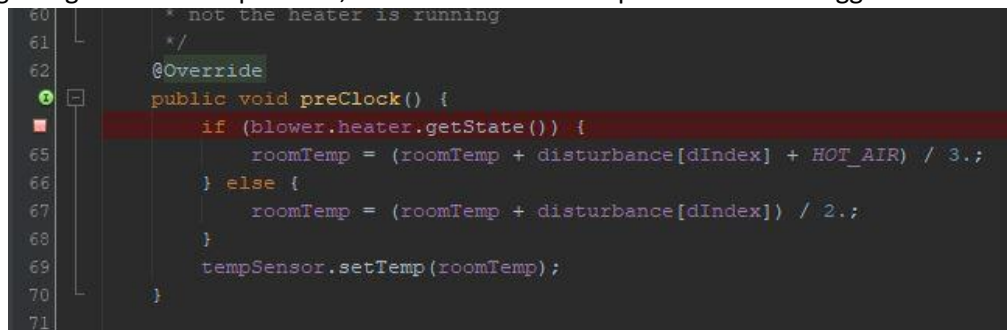
> Very similar to code for heater
> Created an "add" method to add a heater to a blower
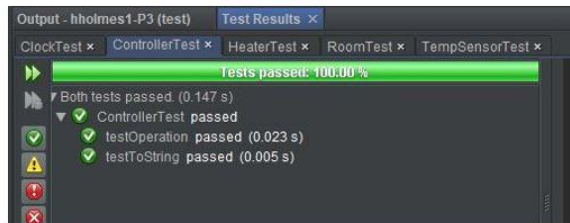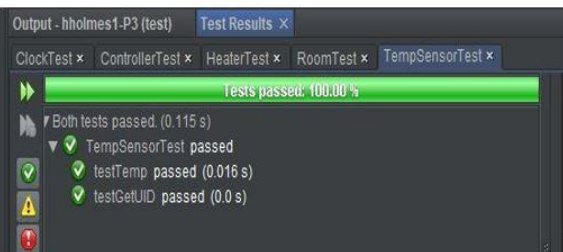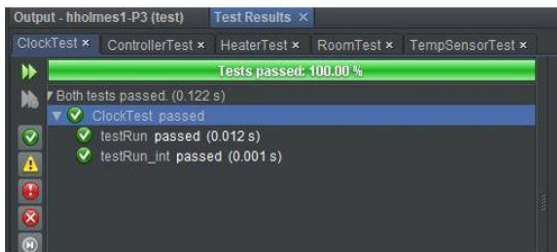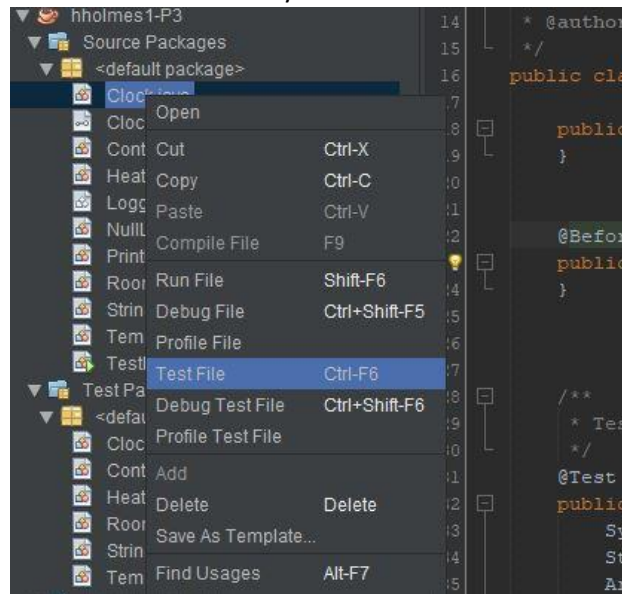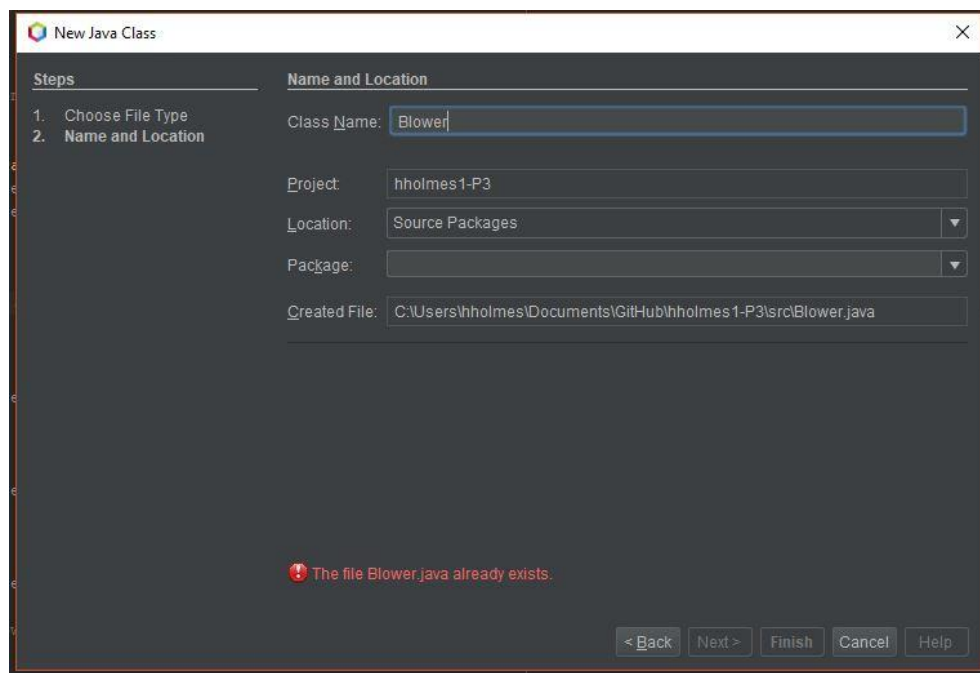> Both heater and blower states need to be set by the controller but the blower should only run if the heater is running
> Blower outputs air at 95 degrees when heater is on
6. Created JUnit test for Blower
> Similar to heater test
> Checks for proper UID assignment
> Tests that blower can only be on when heater is on
> Tests Blower's toString as it relates to the state of the blower
7. Updated Controller
> Blower only can be on if heater is on
> Allowed room for future conditions that could also turn the blower on

8. Updated ControllerTest.java
   - Updated testToString() to look for proper Blower description
   - Also updated Controller to create proper Blower description
   - Added test make sure that blower status is dependent on heater status

9. Updated P3 to account for connecting blower

10. Ran TestP3 with new blower/heater configuration, encountered NullPointerException
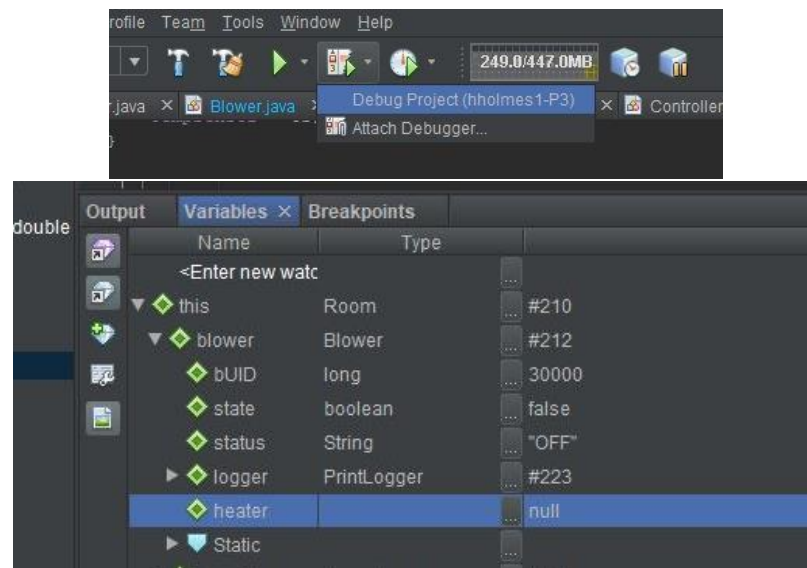

   - Clicking on "Room.java:64" took me to the line that could not be compiled
   - Recognizing this line as a problem, I selected it as a breakpoint for the debugger

➢ Was able to see that variable "blower.heater" was null by running the debugger

➢ blower.heater was not initialized because I had not modified TestP3 to add a heater to the blower
➢ Added "b1.add(h1)" to TestP3 and resolved issue

11. Added MissingComponentException.java
    ➢ Creation done by simply creating class named MissingComponentException
    ➢ Extends Exception
12. Added "throws MissingComponentException" to preClock() in Clockable.java
    ➢ Also added it to preClock() implementation in Controller.java
    ➢ Added "throws MissingComponentException" to run methods in Clock.java
    ➢ Updated all Methods that call run(), run(int), and clock() to throw MissingComponentException
    ➢ Updated ControllerTest.java and ClockTest.java to throw MissingComponentException
13. Added conditional logic to Controller's preClock to pass message to MissingComponentException if a component is missing
    ➢ Displays error at compile time
    ➢ Adds error to log
14. Update ControllerTest.java
    ➢ Added tests to verify MissingComponentException
    ➢ One test to verify that no exception is thrown if all components are connected
    ➢ Three tests to verify that the correct message is displayed when attempting to preClock a controller that is missing a particular component

15. Updated Room.java
    ➢ Now a blower is added to a room instead of a heater
        ▪ Heater is now added to the blower
    ➢ If blower is on, then Room accepts Blower's output temperature for calculation
    ➢ If blower is off, then temperature is based on current room temp and disturbance array
   ➢ Room could accept a hot or cold input. Increases flexibility
16. Updated RoomTest.java
    ➢ Now tests for a situation with the blower off and the heater turning off and on
    ➢ Had to create a new array for expected temp with blower off

17. Reran Unit Tests
    ➢ I learned that I can run all tests at once if I right click on the project and click "test"
    ➢ StringLoggerTest failed as it is not complete at this time
    ➢ All other tests that have been created and updated for P3 passed
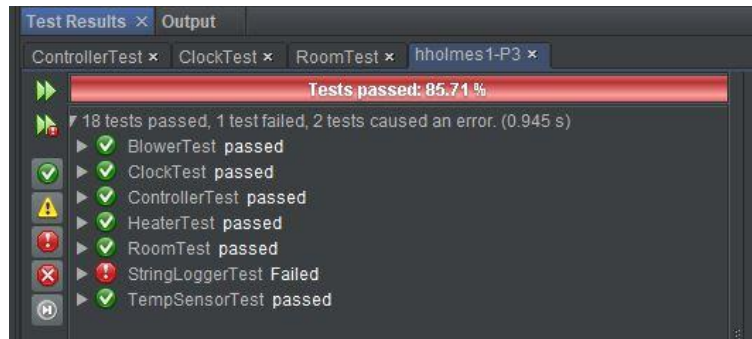

18. Generated JavaDoc for hholmes-P3
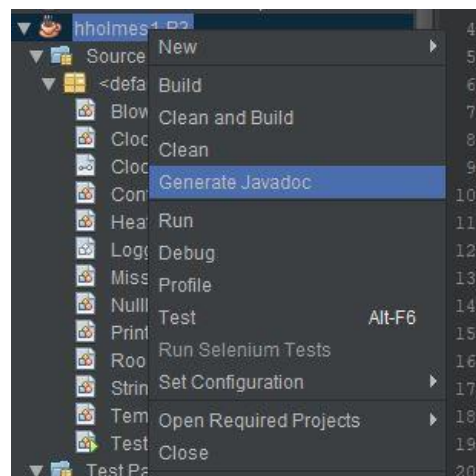
    ➢ JavaDoc generation tool revealed various errors including bad characters, non-existent parameters, and parameters that were not denoted with a @param
    ➢ Since the error messages indicated the lines I was able to fix the errors and some warnings
19. Ran TestP3 to ensure all tests were still passed

20. Built .jar file
  ➢ Compiling the project by default creates a jar file for a java project
  ➢ To make sure this .jar file is being created I opened the project properties and select Packaging
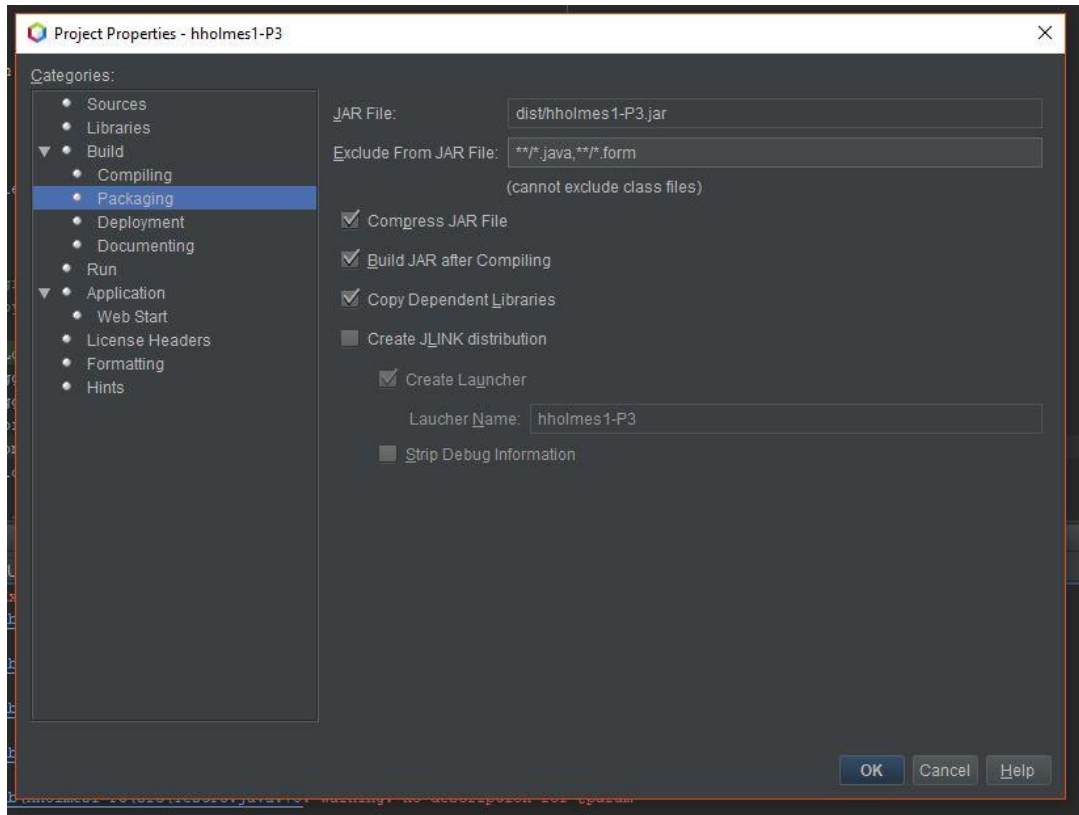
  ➢ I ensured that "Build JAR after Compiling" was checked
  ➢ Now .jar file is created for project upon compiling
21. Ran hholmes1-P3.jar from command prompt
  ➢ Change directories to directory with .jar file
  ➢ Typed "java -jar hholmes1-P3.jar >hholmes1-P3-DemoRun"
  ➢ ">hholmes1-P3-DemoRun" is used to direct the output stream to a .txt file for convenience