Test Plan For SCorTrap

General Instructions: Perform the tests in order. Don't log out or perform any other operations between the tests. Follow the instructions precisely. Take careful note of any results that differ from the predictions below. If problems occur, continue as long as the instructions make sense.

Set-Up:

1. Start with the initial database (provided with the database class). Run the auxillary program to add two new researchers to the database, named Worf and Picard. They should each initially have an exposure of zero, zero treatments, and both should be on the planet.
2. Start up the SCorTrap program.
3. You should see a large frame, with the title "SCorTrap" at the top. In front of this should be a smaller log-in window asking for a name and password.
4. Type "Swifp" in the name box.
5. Type "JamesTKirk" in the password box.
6. Click the "log in" button.
7. The log-in window should go away, leaving the larger frame.
8. Click the "change recall number" button.
9. You should see a pop-up asking you to enter the new recall number. Enter 600 and click "OK".

Test 1: Bad Time Data

1. Enter "Worf" in the "researcher name" box. In the 7 exposure data boxes, enter the following numbers:
    - -2
    - 500.00
    - 100.00
    - 50.00
    - 20.00
    - 5.00
    - 260
2. Click "submit".
3. You should see a pop-up with an error telling you that the time data was illegal.
4. Click "OK" on the pop-up. You should see the name and 7 numbers you typed in still in their places on the screen.

Test 2: Bad Pressure Data

1. Change the contents of the "time" box to 200.
2. Change the contents of the "pressure" box to 501.
3. Click "submit".
4. You should see a pop-up with an error telling you that the pressure data was illegal.
5. Click "OK" on the pop-up. You should see the name and 7 numbers you typed in still in their places on the screen.

Test 3: Bad Temperature Data

1. Change the contents of the "pressure" box back to 500.00
2. Change the contents of the "temperature" box to 101
3. Click "submit".
4. You should see a pop-up with an error telling you that the temperature data was illegal.
5. Click "OK" on the pop-up. You should see the name and 7 numbers you typed in still in their places on the screen.

Test 4: Bad O2 Data

1. Change the contents of the "temperature" box back to 100.00
2. Change the contents of the "O2" box to 102
3. Click "submit".
4. You should see a pop-up with an error telling you that the O2 data was illegal.
5. Click "OK" on the pop-up. You should see the name and 7 numbers you typed in still in their places on the screen.

Test 5: Bad H2O Data

1. Change the contents of the "O2" box back to 50.00
2. Change the contents of the "H20" box to -5
3. Click "submit".
4. You should see a pop-up with an error telling you that the H2O data was illegal.
5. Click "OK" on the pop-up. You should see the name and 7 numbers you typed in still in their places on the screen.

Test 6: Bad O3 Data

1. Change the contents of the "H2O" box back to 20.00
2. Change the contents of the "O3" box to 100.1
3. Click "submit".
4. You should see a pop-up with an error telling you that the O3 data was illegal.
5. Click "OK" on the pop-up. You should see the name and 7 numbers you typed in still in their places on the screen.

Test 7: Bad Body Mass Data

1. Change the contents of the "O3" box back to 5.00
2. Change the contents of the "body mass" box to 250
3. Click "submit".
4. You should see a pop-up with an error telling you that the body mass data was illegal.
5. Click "OK" on the pop-up. You should see the name and 7 numbers you typed in still in their places on the screen.

Test 8: Legal Inputs

1. Change the contents of the body mass box back to 260.
2. Click "submit".
3. You should get a pop-up telling you that Worf's total exposure to date is 332.12, that its estimated exposure after the next orbit is 664.24, and that Worf may stay on the planet. Click OK on the pop-up.

Test 9: More Legal Input

1. Change the 7 exposure boxes to the following numbers:
    - 145
    - 350
    - 35
    - 35
    - 10
    - 1.2
    - 300
2. Click "submit".
3. You should get a pop-up telling you that Worf's total exposure to date is 468.65, that its estimated exposure after the next orbit is 605.18, and that Worf should be recalled. Click OK on the pop-up.

Test 10: Clearing the Input

1. Click the "clear" button. The researcher name box and all 7 of the exposure data boxes should become empty.

Test 11: Input For a Second Researcher

1. Enter "Picard" into the researcher name box.
2. Change the 7 exposure data boxes to the following numbers:
    - 150
    - 300
    - 14
    - 21
    - 7
    - 1
    - 75000
3. Click "submit".
4. You should get a pop-up telling you that Picard's total exposure to date is 105.63, that its estimated exposure after the next orbit is 211.26, and that Picard may stay on the planet.

Test 12: Check Database

1. Click the "create researcher report" button. You will see a pop-up window allowing you to browse to a file name. Pick file name "test.txt" and do not change folders.
2. Look in the folder where the SCorTrap program is installed and you should find a "test.txt" file. Open it with Notepad (or equivalent alien text editor!).
3. The file should list two researchers:
   - Worf, with exposure 468.65, no treatments, currently on planet
   - Picard, with exposure 105.63, no treatments, currently on planet

The above is a fairly minimal, but acceptable set of tests for the test plan. There are many other kinds of tests we could include, such as:

- Illegal values on each side of the legal range for each input
- Sets of input with 2 or more illegal inputs
- Non-numeric inputs, and non-integer inputs for time and body mass
- Legal inputs at the "boundaries" of the legal values, such as exactly 80 and 500 for pressure.
- Illegal inputs just outside the boundaries, such as 79.99 or 500.01 for pressure.