# NetBeans Debugger and Profiler

The debugger and profiler are extremely valuable tools that allow programmers to monitor and trouble shoot bugs and performance issues. Breakpoints added within the programs code allows the debugger to step into specific sections of the code during runtime to identify exactly how the code is running and performing within certain sections, the various features of the debugger allow the programmer to step into or over lines of code to determine exactly how the logic is operating in a step by step sequence. This allows complex code to be simplified, and the identification of bugs, or logic faults to be identified easily.

The profiler provides a comprehensive top down look of all the elements of the program and its resource use within the machine. This allows the programmer to easily identify performance issues such as memory leaks within the code. This is especially useful as performance issues are particularly hard to isolate, especially within complex programs with a large amount of cohesive and interdependent elements.

# Test Case

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| Test Case ID | Description | Result | Notes |
| TC.1 | Program Launches and closes | Launches and closes successfully |  |
| TC.2 | ArrayList is generated and adds elements to arraylist | Elements are added successfully |  |
| TC.3 | Elements in the array are printed to screen | Elements are printed to screen successfully | Elements are unsorted |
| TC.4 | ArrayList elements are sorted | Elements are sorted successfully | Elements will always need to be sorted before BinarySearch Method is run |
| TC.5 | Sorted elements are printed to screen | Sorted Elements are printed successfully | BinarySearch Method can be run |
| TC.6 | User is prompted to enter car make for search | Prompt successful |  |
| TC.7 | Reads in user entered information, attempts to match to element within ArrayList | Matches appropriate to ReadIn values. | User must enter correct ‘make’ name else the program will register ‘not found’ |
| TC.8 | Writes binary file with serialised information contained within ArrayList | .dat file successfully created | Data must be serialised to be read from file |
| TC.9 | Reads newly created binary file and saves data to new ArrayList object | .dat file successfully read, all data saved to ArrayList and displayed on screen | Data is displayed on screen to verify that data was correctly serialised |