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Project Part 2

To test our implementation of cocktail shaker sort, we had to develop many different data sets, a test bench file, as well as create a batch of unit tests to ensure everything worked correctly. Our random data sets were generated using the buit in Linux *shuf* command to create a range of sets data sets from 1000 elements to 10 million elements. Each data set was passed into the test driver file to get the average time it takes to sort that elements in the specified file. The test bench file inserts every element from the random element file into the array then calls sort and tracks how long it takes for the sort method to terminate. For our unit tests, we test the insert function and sort function by themselves, then test how the function works when a few elements are inserted, the collection is sorted, then more elements are added into the collection before it is resorted one final time. Each of the tests passed cleanly, and the test bench files displayed correct timing data for each methods.