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| **Project Name: Project 1: CompuVote Team #19** | |
| **Test Stage:** System | **Test Date:** 3/11/21 |
| **Test Case ID #:** test\_424\_05\_main\_08\_testOplTime | **Name(s) of Testers:** Nikunj Chawla |
| **Test Description:**  Tests that main runs under 8 minutes for several variations of an OPL file with 100,000 ballots arranged in a manner to be quite inefficient.  The tests start with 1 candidate per party and this number is multiplied by 4 until it reaches the case that is one greater than or equal to the total number of candidates  (Note that when it says candidates per party below, it puts candidates in every party exception potentially the last party, which will have the remainder.) |  |
| **Automated:** Yes | **Indicate where you are storing the tests (what file) and the name of the method/functions being used:**  Test file: Project1/src/test/org/team19/VotingSystemRunner.java  Test method: testOplTime  Method/constructor being tested: main from Project1/src/main/org/team19/VotingSystemRunner.java |
| **Results:** Pass |  |
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| **Preconditions for Test:**  The output test file must be able to be written to, and the written output file must be able to be read from | |

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| **Step**  **#** | **Test Step**  **Description** | **Test**  **Data** | **Expected**  **Result** | **Actual**  **Result** | **Notes** |
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| 1 | Generate the OPL election file for 1 candidate per party, time the running of main with the generated OPL election file, ensure that it runs under 8 minutes, and delete the generated file | "Project1/testing/test-resources/votingSystemRunnerTest/oplTest1.txt" | The time to run the file is under 8 minutes | The time to run the file is under 8 minutes |  |
| 2 | Generate the OPL election file for 4 candidates per party, time the running of main with the generated OPL election file, ensure that it runs under 8 minutes, and delete the generated file | "Project1/testing/test-resources/votingSystemRunnerTest/oplTest4.txt" | The time to run the file is under 8 minutes | The time to run the file is under 8 minutes |  |
| 2 | Generate the OPL election file for 16 candidates per party, time the running of main with the generated OPL election file, ensure that it runs under 8 minutes, and delete the generated file | "Project1/testing/test-resources/votingSystemRunnerTest/oplTest16txt" | The time to run the file is under 8 minutes | The time to run the file is under 8 minutes |  |
| 2 | Generate the OPL election file for 64 candidates per party, time the running of main with the generated OPL election file, ensure that it runs under 8 minutes, and delete the generated file | "Project1/testing/test-resources/votingSystemRunnerTest/oplTest64.txt" | The time to run the file is under 8 minutes | The time to run the file is under 8 minutes |  |
| 2 | Generate the OPL election file for 256 candidates per party, time the running of main with the generated OPL election file, ensure that it runs under 8 minutes, and delete the generated file | "Project1/testing/test-resources/votingSystemRunnerTest/oplTest256.txt" | The time to run the file is under 8 minutes | The time to run the file is under 8 minutes |  |
| 2 | Generate the OPL election file for 1024 candidates per party, time the running of main with the generated OPL election file, ensure that it runs under 8 minutes, and delete the generated file | "Project1/testing/test-resources/votingSystemRunnerTest/oplTest1024.txt" | The time to run the file is under 8 minutes | The time to run the file is under 8 minutes |  |
| 2 | Generate the OPL election file for 4096 candidates per party, time the running of main with the generated OPL election file, ensure that it runs under 8 minutes, and delete the generated file | "Project1/testing/test-resources/votingSystemRunnerTest/oplTest4096.txt" | The time to run the file is under 8 minutes | The time to run the file is under 8 minutes |  |
| 2 | Generate the OPL election file for 16384 candidates per party, time the running of main with the generated OPL election file, ensure that it runs under 8 minutes, and delete the generated file | "Project1/testing/test-resources/votingSystemRunnerTest/oplTest16384.txt" | The time to run the file is under 8 minutes | The time to run the file is under 8 minutes |  |
| 2 | Generate the OPL election file for 65536 candidates per party, time the running of main with the generated OPL election file, ensure that it runs under 8 minutes, and delete the generated file | "Project1/testing/test-resources/votingSystemRunnerTest/oplTest65536.txt" | The time to run the file is under 8 minutes | The time to run the file is under 8 minutes |  |
| 2 | Generate the OPL election file for 262144 candidates per party, time the running of main with the generated OPL election file, ensure that it runs under 8 minutes, and delete the generated file | "Project1/testing/test-resources/votingSystemRunnerTest/oplTest262144.txt" | The time to run the file is under 8 minutes | The time to run the file is under 8 minutes |  |

**Post condition(s) for Test:**

N/A