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| **Project Name: Project 1: CompuVote Team #19** | |
| **Test Stage:** System | **Test Date:** 3/11/21 |
| **Test Case ID #:** test\_423\_05\_main\_07\_testIrDoubleStairsTime | **Name(s) of Testers:** Nikunj Chawla |
| **Test Description:**  Tests that main runs under 8 minutes for an IR file with 100,000 ballots arranged in a manner to be quite inefficient.  This test only runs if RUN\_TIME\_TESTS is set to true in VotingSystemRunnerTest.java and is by default set to false.  The test election file is actually generated as Project1/testing/test-resources/votingSystemRunnerTest/irDoubleStairsTest.txt and can be very large (up to 10 gigabytes in size). So, ensure you have suitable disk space for a 100,000-line file and note that it will take some time to run. (The generated file is deleted after the completion of the test.)  Let be the number of candidates  The first 25% of candidates are assigned to candidate 1. The next 12.5% of candidates are assigned to candidate 2 with candidate 1 after. The next 6.25% of candidates are assigned to candidate 3 with candidate 2 after and candidate 1 after that. This continues until we have reached ballots.  Then, the first 25% of candidates starting at are assigned to candidate . The next 12.5% of candidates are assigned to candidate with candidate after. The next 6.25% of candidates are assigned to candidate with candidate after and candidate after that. This continues until we have reached ballots. |  |
| **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/VotingSystemRunnerTest.java  Test method: testIrDoubleStairsTime  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 IR election file, time the running of main with the generated IR election file, ensure that it runs under 8 minutes, and delete the generated file | “Project1/testing/test-resources/votingSystemRunnerTest/irDoubleStairsTest.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:**

Prints the runtime for the test to the console