| **Project Name: Project 1: Voting System Team#08** | |
| --- | --- |
| **Test Stage: Unit \_x\_ System \_ \_** | **Test Date: 3/23/2023** |
| **Test Case ID#: CPLElection\_10** | **Name(s) of Testers: Dheva Subramaniam** |
| **Test Description:**   * Testing the ReadElection method using the WriteResultsToFile method * This test uses the CPLElectionTest\_SeatRedistribution.csv file, which contains an election that results in a party getting more seats than they have candidates to fill them |  |
| **Automated: yes\_x\_ no \_\_\_ using Google Test** |  |
| **Results: Pass \_\_\_\_x\_\_\_ Fail\_\_\_\_\_\_\_\_** |  |
|  |  |
| **Preconditions for Test:**  CPLElectionTest\_SeatRedistribution.csv must be in the same directory as the testing executable | |

| **Step**  **#** | **Test Step**  **Description** | **Test**  **Data** | **Expected**  **Result** | **Actual**  **Result** | **Notes** |
| --- | --- | --- | --- | --- | --- |
| 1 | Opens CPLElectionTest\_SeatRedistribution.csv | CPLElectionTest\_SeatRedistribution.csv | ifstream object | ifstream object | N/A |
| 2 | Call ignore() on istream object with inputs 256 and ‘\n’ | int 256, char ‘\n’ | N/A | N/A | First line is being skipped as it is already known what type of election is being read |
| 3 | Create CPLElection object | istream generated by step 2, date string: “05102001” | CPLElection object | CPLElection object | N/A |
| 4 | Call RunElection method on CPLElection object | CPLElection object from step3 | N/A | N/A | CPLElection’s private members should only be interacted with bypublic methods and so do not result in any direct output |
| 5 | Check that CPLElectionTest\_SeatRedistribution.csv is closed using is\_open() | istream object | false | false | N/A |
| 6 | Run the WriteResultsToFile | CPLElection object from step 3 | 05102001CPL.txt file | 05102001CPL.txt file | File generated from auditFiler |
| 7 | Open 05102001CPL.txt | 05102001CPL.txt | ifstream object | ifstream object | N/A |
| 8 | Read contents | ifstream object | See below Post Conditions | See below Post Conditions | Contents are compared using Google Test |

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

05102001CPL.txt file containing auditor information

Expected results for step 8:

CPLElection

Number of Parties: 3

PartyA: A,B,C

PartyB: D,E,F,G

PartyC: H,I

Number of seats: 8

Number of ballots: 17

Ballot ID: 1 Ballot Info: 1,,

Ballot ID: 2 Ballot Info: 1,,

Ballot ID: 3 Ballot Info: 1,,

Ballot ID: 4 Ballot Info: 1,,

Ballot ID: 5 Ballot Info: 1,,

Ballot ID: 6 Ballot Info: 1,,

Ballot ID: 7 Ballot Info: 1,,

Ballot ID: 8 Ballot Info: 1,,

Ballot ID: 9 Ballot Info: ,1,

Ballot ID: 10 Ballot Info: ,1,

Ballot ID: 11 Ballot Info: ,1,

Ballot ID: 12 Ballot Info: ,1,

Ballot ID: 13 Ballot Info: ,1,

Ballot ID: 14 Ballot Info: ,1,

Ballot ID: 15 Ballot Info: ,1,

Ballot ID: 16 Ballot Info: ,,1

Ballot ID: 17 Ballot Info: ,,1

Counting ballots:

Party "PartyA" received ballot number 1

Party "PartyA" received ballot number 2

Party "PartyA" received ballot number 3

Party "PartyA" received ballot number 4

Party "PartyA" received ballot number 5

Party "PartyA" received ballot number 6

Party "PartyA" received ballot number 7

Party "PartyA" received ballot number 8

Party "PartyB" received ballot number 9

Party "PartyB" received ballot number 10

Party "PartyB" received ballot number 11

Party "PartyB" received ballot number 12

Party "PartyB" received ballot number 13

Party "PartyB" received ballot number 14

Party "PartyB" received ballot number 15

Party "PartyC" received ballot number 16

Party "PartyC" received ballot number 17

Quota determined to be: 2

Party "PartyA" | Seats assigned using quota: 4

Party "PartyB" | Seats assigned using quota: 3

Party "PartyC" | Seats assigned using quota: 1

Party "PartyA" has 4 seat(s) but only 3 candidate(s)- redistributing 1 seat(s)

Party "PartyB" given one seat from "PartyA"

Candidates receiving seats:

PartyA: A B C

PartyB: D E F G

PartyC: H

Actual Result for step 8:

CPLElection

Number of Parties: 3

PartyA: A,B,C

PartyB: D,E,F,G

PartyC: H,I

Number of seats: 8

Number of ballots: 17

Ballot ID: 1 Ballot Info: 1,,

Ballot ID: 2 Ballot Info: 1,,

Ballot ID: 3 Ballot Info: 1,,

Ballot ID: 4 Ballot Info: 1,,

Ballot ID: 5 Ballot Info: 1,,

Ballot ID: 6 Ballot Info: 1,,

Ballot ID: 7 Ballot Info: 1,,

Ballot ID: 8 Ballot Info: 1,,

Ballot ID: 9 Ballot Info: ,1,

Ballot ID: 10 Ballot Info: ,1,

Ballot ID: 11 Ballot Info: ,1,

Ballot ID: 12 Ballot Info: ,1,

Ballot ID: 13 Ballot Info: ,1,

Ballot ID: 14 Ballot Info: ,1,

Ballot ID: 15 Ballot Info: ,1,

Ballot ID: 16 Ballot Info: ,,1

Ballot ID: 17 Ballot Info: ,,1

Counting ballots:

Party "PartyA" received ballot number 1

Party "PartyA" received ballot number 2

Party "PartyA" received ballot number 3

Party "PartyA" received ballot number 4

Party "PartyA" received ballot number 5

Party "PartyA" received ballot number 6

Party "PartyA" received ballot number 7

Party "PartyA" received ballot number 8

Party "PartyB" received ballot number 9

Party "PartyB" received ballot number 10

Party "PartyB" received ballot number 11

Party "PartyB" received ballot number 12

Party "PartyB" received ballot number 13

Party "PartyB" received ballot number 14

Party "PartyB" received ballot number 15

Party "PartyC" received ballot number 16

Party "PartyC" received ballot number 17

Quota determined to be: 2

Party "PartyA" | Seats assigned using quota: 4

Party "PartyB" | Seats assigned using quota: 3

Party "PartyC" | Seats assigned using quota: 1

Party "PartyA" has 4 seat(s) but only 3 candidate(s)- redistributing 1 seat(s)

Party "PartyB" given one seat from "PartyA"

Candidates receiving seats:

PartyA: A B C

PartyB: D E F G

PartyC: H