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| **Project Name: Project 1: Voting System Team#19** | |
| **Test Stage: Unit X System \_\_** | **Test Date: 3/13/2021** |
| **Test Case ID#: 5** | **Name(s) of Testers: Emma Barnes** |
| **Test Description: Tests the methods of the Election class and its inheriting classes, IRElection and OPLElection** |  |
| **Automated: yes X no \_\_\_** | **Indicate where are you storing the tests (what file) and the name of the method/functions being used.**  Tests are in UnitTester.java. Election() and all of its methods  are being used. |
| **Results: Pass X Fail\_\_\_\_\_\_\_\_** |  |
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| **Preconditions for Test:**  **Candidate, Party, and Ballot objects must be created** | |

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| **Step**  **#** | **Test Step**  **Description** | **Test**  **Data** | **Expected**  **Result** | **Actual**  **Result** | **Notes** |
| 1 | Candidate object “bob” is created | name: “Bob” party:”yomama”  totalVotes: 0  rank: 0  hasSeat: false | New Candidate object “bob” with data ‘name: “Bob” party:”yomama”  totalVotes: 0  rank: 0  hasSeat: false’ is created | New Candidate object “bob” with data ‘name: “Bob” party:”yomama”  totalVotes: 0  rank: 0  hasSeat: false’ is created |  |
| 2 | Candidate object “charlse” is created | name: “Charlse” party:”yomama”  totalVotes: 0  rank: 0  hasSeat: false | New Candidate object “charlse” with data ‘name: “Charlse” party:”yomama”  totalVotes: 0  rank: 0  hasSeat: false’ is created | New Candidate object “charlse” with data ‘name: “Charlse” party:”yomama”  totalVotes: 0  rank: 0  hasSeat: false’ is created |  |
| 3 | Candidate object “lenin” is created | name: “Lenin” party:”communist”  totalVotes: 0  rank: 0  hasSeat: false | New Candidate object “lenin” with data ‘name: “Lenin” party:”communist”  totalVotes: 0  rank: 0  hasSeat: false’ is created | New Candidate object “lenin” with data ‘name: “Lenin” party:”communist”  totalVotes: 0  rank: 0  hasSeat: false’ is created |  |
| 4 | Candidate object “rudolph” is created | name: “Rudolph” party:”christmas”  totalVotes: 0  rank: 0  hasSeat: false | New Candidate object “rudolph” with data ‘name: “Rudolph” party:”christmas”  totalVotes: 0  rank: 0  hasSeat: false’ is created | New Candidate object “rudolph” with data ‘name: “Rudolph” party:”christmas”  totalVotes: 0  rank: 0  hasSeat: false’ is created |  |
| 5 | Candidate object “bobs\_evil\_twin” is created | name: “Bob” party:”EVIL!!!”  totalVotes: 0  rank: 0  hasSeat: false | New Candidate object “bobs\_evil\_twin” with data ‘name: “Bob” party:”EVIL!!!”  totalVotes: 0  rank: 0  hasSeat: false’ is created | New Candidate object “bobs\_evil\_twin” with data ‘name: “Bob” party:”EVIL!!!”  totalVotes: 0  rank: 0  hasSeat: false’ is created |  |
| 6 | Candidate array “first” is initialized | [bob,charlse,lenin] | first = [bob,charlse,lenin] | first = [bob,charlse,lenin] |  |
| 7 | Candidate array “second” is initialized | [bob,charlse,rudolph,lenin,bobobs\_evil\_twin] | second = [bob,charlse,rudolph,lenin,bobobs\_evil\_twin] | second = [bob,charlse,rudolph,lenin,bobobs\_evil\_twin] |  |
| 8 | Candidate array “hold” is initialized | [bob,charlse] | hold = [bob,charlse] | hold = [bob,charlse] |  |
| 9 | OPLBallot object “b1” is created | candidateVote: 1  ballotNum: 1 | New OPLBallot object “b1” with data ‘candidateVote: 1  ballotNum: 1’ is created | New OPLBallot object “b1” with data ‘candidateVote: 1  ballotNum: 1’ is created |  |
| 10 | OPLBallot object “b2” is created | candidateVote: 1  ballotNum: 2 | New OPLBallot object “b2” with data ’candidateVote: 1  ballotNum: 2’ is created | New OPLBallot object “b2” with data ’candidateVote: 1  ballotNum: 2’ is created |  |
| 11 | OPLBallot object “b3” is created | candidateVote: 2  ballotNum: 3 | New OPLBallot object “b3” with data ‘candidateVote: 2  ballotNum: 3’ is created | New OPLBallot object “b3” with data ‘candidateVote: 2  ballotNum: 3’ is created |  |
| 12 | Ballot object “box” is created | [b1,b2,b3] | box = [b1,b2,b3] | box = [b1,b2,b3] |  |
| 13 | Party object “yomama” is created | partyName: “yomama”  candidates: hold  numVotes: 0 | New Party object “yomama” with data ‘partyName: “yomama”  candidates: hold  numVotes: 0’ is created | New Party object “yomama” with data ‘partyName: “yomama”  candidates: hold  numVotes: 0’ is created |  |
| 14 | Party object “communist” is created | partyName: “communist”  candidates: [lenin]  numVotes: 0 | New Party object “communist” with data ‘’ is created | New Party object “communist” with data ‘partyName: “communist”  candidates: [lenin]  numVotes: 0’ is created |  |
| 15 | Party object “christmas” is created | partyName: “christmas”  candidates: [rudolph]  numVotes: 0 | New Party object “christmas” with data ‘partyName: “christmas”  candidates: [rudolph]  numVotes: 0’ is created | New Party object “christmas” with data ‘partyName: “christmas”  candidates: [rudolph]  numVotes: 0’ is created |  |
| 16 | Party object “evil” is created | partyName: “EVIL!!!”  candidates: [lenin]  numVotes: 0 | New Party object “evil” with data ‘partyName: “EVIL!!!”  candidates: [lenin]  numVotes: 0’ is created | New Party object “evil” with data ‘partyName: “EVIL!!!”  candidates: [lenin]  numVotes: 0’ is created |  |
| 17 | Election object “doo” is created | fileName; “doo”  outputPath: “”  candidateCount:3  candidates:[bob,charlse,lenin]  parties:[yomama,communist]  ballots:[b1,b2,b3]  seatcount:3 | New Election object “doo” with data ‘fileName; “doo”  outputPath: “”  candidateCount:3  candidates:[bob,charlse,lenin]  parties:[yomama,communist]  ballots:[b1,b2,b3]  seatcount:3’ is created | New Election object “doo” with data ‘fileName; “doo”  outputPath: “”  candidateCount:3  candidates:[bob,charlse,lenin]  parties:[yomama,communist]  ballots:[b1,b2,b3]  seatcount:3’ is created |  |
| 18 | The getBallotCount() method is tested | doo.getBallotCount() | 3 | 3 |  |
| 19 | The getCandidateCount() method is tested | doo.getCandidateCount() | 3 | 3 |  |
| 20 | The getBallots method is tested | doo.getBallots = box | true | true |  |
| 21 | The hasSeat method is tested | charlse.hasSeat() | true | true |  |
| 22 | The hasSeat method is tested | lenin.hasSeat() | true | true |  |
| 23 | The hasSeat method is tested | bob.hasSeat() | false | false |  |
| 24 | The probCandidateTest test is examined, which runs the tiebreaker method for candidates | min: 49000  max: 51000  times: 100000 | true | true |  |
| 25 | The probPartyTest test is examined, which runs the tiebreaker method for parties | min: 49000  max: 51000  times: 100000  amount: 2 | true | true |  |
| 26 | The probPartyTest test is examined, which runs the tiebreaker method for parties | min: 9400  max: 10600  times: 100000  amount: 10 | true | true |  |

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

An OPLElection and IRElection will be run and processed using methods from the Election class