| **Project Name: Project 1: Voting System Team#08** | |
| --- | --- |
| **Test Stage: Unit \_x\_ System \_ \_** | **Test Date: 3/23/2023** |
| **Test Case ID#: ElectionFactory\_01** | **Name(s) of Testers: Dheva Subramaniam** |
| **Test Description:**   * Testing the static CreateElection() method in ElectionFactory to ensure correct derived type from Election is returned (or if an error is returned for invalid types) * This tests specifically for the derived IRElection object generation |  |
| **Automated: yes\_x\_ no \_\_\_ using Google Test** |  |
| **Results: Pass \_\_\_\_x\_\_\_ Fail\_\_\_\_\_\_\_\_** |  |
|  |  |
| **Preconditions for Test:**  An IRElection file is required to be in the same directory titled “IRElectionTest\_General.csv” | |

| **Step**  **#** | **Test Step**  **Description** | **Test**  **Data** | **Expected**  **Result** | **Actual**  **Result** | **Notes** |
| --- | --- | --- | --- | --- | --- |
| 1 | Created ifstream object from an IR election test file | IR-type election file | istream object pointing to IR-type election file | istream object pointing to IR-type election file | 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 |
| 2 | Call ElectionFactory’s static CreateElection() method using test information | istream object generated from step 1, string with dummy date, string with IR flag | Election\* | Election\* | N/A |
| 4 | Attempt dynamic downcast to IRElection\* | Election\* generated from step 3 | IRElection\* | IRElection\* | N/A |
| 5 | Check that IRElection\* generated above is not null | IRElection\* generated from step 4 | Not null | Not null | Null would’ve indicated that an incompatible derived class was created instead. Since the pointer is not null, however, the correct type was created before being upcasted |

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

An Election pointer pointing to an upcasted IRElection object will be returned.