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| Bug# | Description of the bug | Location of Bug | Steps to Recreate Bug | Root Cause |
|  | When GUI closes with the file explorer, this warning is issued.  objc[1915]: Class FIFinderSyncExtensionHost is implemented in both /System/Library/PrivateFrameworks/FinderKit.framework/Versions/A/FinderKit (0x7fffafec4c90) and /System/Library/PrivateFrameworks/FileProvider.framework/OverrideBundles/FinderSyncCollaborationFileProviderOverride.bundle/Contents/MacOS/FinderSyncCollaborationFileProviderOverride (0x158680cd8). One of the two will be used. Which one is undefine | MyMenuDemo.java | 1. Run program without command line argument. 2. Choose option to file on disk from GUI. 3. Enter correct file path   Election will run properly, and files are generated but GUI closes right away. | Unknown. It looks like there may 2 libraries doing the same thing. |
| 2. | GUI will close after each election if file is chosen using file explorer. | MyMenuDemo.java | 1. Run program without command line argument. 2. Choose option to file on disk from GUI. 3. Enter correct file path 4. Election will run properly, and files are generated but GUI closes right away. | MyMenuDemo exits system without waiting for user to close. |
| 3. | Audit file will only show the total # of ballots, not the adjusted count after eliminating invalids. (It will still not use the invalids) | IRVoting.run() | Input SmallElection14.csv | Did not account for the changing count. |
| 4 | Command line arguments do not check for validity of arguments. | MyMenuDemo.java | Compile files and do java MyMenuDemo errorfilename | We did no error checking for files. |
| 5 | User prompt GUI does not check for invalid input | MyMenuDemo.java | 1. Compile the files (See Readme) 2. java MyMenuDemo 3. From File select “input file name” 4. Enter filepath of a non-existent file while in the GUI | We did no error checking for files input.s |
| 6 | Searching for file does not check is user selected a valid file. | MyMenuDemo.java | 1. Compile the files (See Readme) 2. java MyMenuDemo 3. Click File at the top 4. Click open from file manager 5. Enter filepath of a non-existent file while in the GUI | We did no error checking for files selection. |
| 7 | User cannot hit enter to enter file name. Must click the button. | MyMenuDemo.java | Select the user input option on the GUI menu and type in a file name and hit enter. | There was no listener for it. |
| 8 | Candidate’s votes cannot holds a limited value. | Candidate.java | Pass in a file with over 9223372036854775807 ballots going to a single candidate. | Limit of long in Java. |
| 9 | Candidate cannot set vote over 9223372036854775807. | Candidate.java | Pass in a file with over 9223372036854775807 ballots going to a single candidate. | Limit of long in Java. |
| 10 | Candidate cannot add votes once vote reaches 9223372036854775807. | Candidate.java | Pass in a file with over 9223372036854775807 ballots going to a single candidate. | Limit of long in Java. |
| 11 | Candidate.setBallots(ArrayList<Ballot> ballots) does not update the number of votes. | Candidate.setBallots(ArrayList<Ballot> ballots) | Not a function accessible to the user. A programmer would need to use Candidate.setBallots(ArrayList<Ballot> ballots) to change the Ballots of a Candidate. | Candidate.setBallots(ArrayList<Ballot> ballots) does not update the vote counter when it is resetting the list. |
| 12 | Candidate.getParty() returns null in IR voting | Candidate.getParty() | Not a function accessible to the user. A programmer would need to use Candidate.getParty() when Candidate does not have a Party. | Candidates are not specialized to deal with different election types that not care about the Party. |
| 13 | Candidate id variable may be never used and is may be never set. | Candidate.id | Not a function accessible to the user. A programmer would need to use a constructor that never sets the Id. Then the ids are not unique. | Constructor does not automatically generate unique id numbers. |
| 14 | Party’s CompareTo does not handle values over 9223372036854775807 values. | Party.compareTo(Party) | Pass in a file with over 9223372036854775807 ballots going to a single Party. | Limit of long in Java. |
| 15 | Party’s addTotalCounts does not handle adding to votes counts over 9223372036854775807 values. | Party.addTotalCounts(long) | Pass in a file with over 9223372036854775807 ballots going to a single Candidate. | Limit of long in Java. |
| 16 | Party’s addSeats does not handle adding to seats counts over 9223372036854775807 values. | Party.addSeats(long) | Pass in a file with over 9223372036854775807 seats going to a single Candidate. | Limit of long in Java. |
| 17 | Does not handle empty party and Candidate names properly. You will get Candidate and Party names of “”. | Candidate | Pass in a file with no value for candidate names or party names ie “[]” or Name “()” | Getters and setters for name and Party in Candidate and Party do not check null or empty strings. |
| 18 | Party.setName(null) does not throw an error. | Party.setName(null) | Function not handle case. | Function not handle case. |
| 19 | OPLVoting.run() and Util.writeAuditFile() does not handle elections where there are more seats than Candidates properly. It shows all the winners, but it doesn’t mention that there are less Candidates than seats | OPLVoting.run() and Util.writeAuditFile() | Pass in any OPL file with less Candidates than seats. Check the audit file. | OPLVoting.run() simply did not handle this case. |
| 20 | OPLVoting.parseInputFile(String filename) and IRVoting.parseInputFile(String filename) do not check if ballot number is consistent with the number of ballots shown or if the number of candidates listed on line is different from number listed, etc | OPLVoting.parseInputFile(String filename) and IRVoting.parseInputFile(String filename) | Pass in an OPL or IR file where the line with number of candidates is not consistent with the number listed on the other line. | Neither functions check for consistency in input files. |
| 21 | System does handle user input of a non-existent file. System will throw an error | VoteCounter | Enter filename of a file that’s not in the directory. | VoteCounter does not check for correct input. |