

Bug #	Description of Bug (be specific about what is not working)	Location of Bug (file, class, method, etc)	Steps to Recreate Bug and/or Test Case #	Root Cause Analysis Notes
1	Not able to verify if the input file is of csv format.	Main class parse()	Input a file that is not of csv format during the system prompt	We only prompt user for filename without change the format
2	The system does not detect if the user's input for numSeat is valid, meaning that if the user enters a number that is less than 0 or greater than the number of candidates, the program is getting ArithmeticException(when numSeat = -1) or ArrayIndexOutOfBoundsException, respectively, at run time.	Main class parse() and prompt()	Input a number that is less than 0 or greater than the number of candidates during the system prompt	We prompt user for numSeat before parsing in the input file. Therefore it's not checking if the numSeat exceeds numCandidate.
3	After each round of the ballots distribution, if there exists two candidates both with zero votes, the system puts the one that has lower candidate index in the candidate list to the non-elected candidate list first, which creates unfairness.	STV class runAlgorithm()  Plurality class runAlgorithm()	Input the provided test1.csv	We do not randomly select winner when there is a tie. Instead, we choose the candidate that is the earliest to get his/her first vote.
4	Under some cases, the generated invalidated ballots list has some duplicated ballot ID listed.	STV class runAlgorithm()	Input examplefile.csv with numSeat=1	Our way of determining invalidate ballots is whenever all rankings for a ballot is -1, then we add it to the invalidate ballots list. But we did not delete such a ballot after determining that it is invalidate, hence if the distribution process hasn't ended, in the next round, the

				same ballot is going to be added in our invalidate ballots list again.
5	System won't generate correct STV report if number of candidate exceeds 99999.	STV class runAlgorithm()	Input a csv file containing more than 99999 number of candidates	We have set the max value as 99999 within the runAlgorithm()
6	The invalidate ballot is falsely generated with wrong ballots reported as being invalidated.	STV class runAlgorithm()	No shuffle Run STV numSeat = 1 Input examplefile.csv  Result not realistic	When the algorithm determines whether a ballot is invalidated or not, the definition is not correct.