4.9 Producing an Audit File

Name:	Producing an Audit File
ID	UC_009
Description	To procure information such as the election's result, distribution of ballots, and any recordings of certain voting systems.
Actors	Election officials, programmers, testers
Organizational Benefits	Help to organize the result of the election and in preparation to produce a recorded file showcasing the detailed steps of the software for record-keeping and legitimacy reasons.
Frequency of Use	Audit file will produce multiple times during the year at normal election times and special elections. Programmers and testers will use it more often during developmental phases or testing phases.
Triggers	1. A voting system has successfully been conducted and the results has been determined. 2. The cmd write_election has been input to the prompt.
Preconditions	The voting system has processed a voting system and has declared the winner(s).
Postconditions	An audit file is ready to be outputted and label.
Main Course	1. If the voting system is an instant runoff, record the distribution of ballots to candidates. 2. If there's no majority, show the lowest candidate who got eliminated and the redistribution of their ballots. 3. In the case there is a tie, record the tie results and show who got eliminated. 4. If a popularity vote was conducted, indicate popularity vote was used.

	5. Indicate which candidate won the election. 6. Go onto labeling the audit file case.
Alternate Course	AC1: Closed Party Voting 1. If the voting system is Closed party, record the distribution of ballots to the party. 2. Show the percentage rate of the ballots, and the calculation of seat distribution. 3. In case there is a tie, record the tie results and show who got eliminated. 4. In case there is a seat allocation overflow, record the lottery results. 5. Indicate which candidate and party won the seats. 6. Go onto labeling the audit file case. AC2: cmd write_election 1. The software determines if a file has been opened (see EX3). 2. Depending on the election type, follow main course or AC1.

Exceptions	EX1 System fails on recognizing the type of election.
	   1. The system notifies the user that an error has occurred.
	
	EX2 System fails to produce the audit file.
	   1. The system notifies the user that an error has occurred.
	
	EX3 System has no opened file.
	1. The system notifies the user that there is no current opened file for an audit file to be produced. This error occurs if the user does write_election without an inputted file.