**4.3 Running the Instant Runoff Voting System**

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| Name: | Instant Runoff Voting System |
| ID | UC 003 |
| Description | The program has finished processing ballot and determined to process it as an instant run off election. The winner will be determined, vote distribution, and tie breakers will occur. |
| Actors | Election official, testers and programmers. |
| Organizational Benefits | To effectively process the ballots and conduct the instant run off voting system for efficient and ease. |
| Frequency of Use | Run multiple times during the year at normal election times and special elections.  Will be run multiple times by testers and programmers. |
| Triggers | The ballot use case has finished processing the ballot file and is an instant run off ballot. |
| Preconditions | Ballot has successfully been processed. |
| Postconditions | The status of IR voting steps is done. The winner is determined. |
| Main Course | 1. The system determines if there is a majority candidate, a candidate with 51% votes. If there is, the winner has been decided (EX1). 2. If there is no majority, the candidate with the lowest votes gets eliminated and the ballots for the lowest voting candidate gets redistributed (See Process Ballot use case). 3. If there is a tie between the lowest voting candidate, tie break (see use case breaking a tie). The person who won the coin toss will be eliminated. 4. Repeat step 1-3 till a candidate has been decided. 5. If there is only 2 candidate and there is not a majority, do the popularity (see the popularity for IR use case). 6. Once there is a winner, display the results (see results screen use case). 7. Produce an audit file (see producing an audit file use case). |
| Alternate Course | There is no alternative course for the instant run off. |
| Exceptions | EX1 System gets a percentage out of range (0,100%)   1. System notified user that an error has occurred |