

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit x System **Test Date:** 11/12/2018**Test Case ID#:** Koo_BallotFile_001**Name(s) of Testers:** Justin Koo

Test Description: Test method is named
BallotFileConstructorDoesNotThrowExceptionsSimpleOPL()
located in BallotFileTest.java. It tests/uses the BallotFile
constructor.

Automated: yes x no **Results:** Pass x Fail **Preconditions for Test:** A valid BallotFile object is passed into the constructor as a parameter

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A File object is instantiated	simple_opl_ballot_file.csv	A File object is instantiated pointing to simple_opl_ballot_file.csv	A File object is instantiated pointing to simple_opl_ballot_file.csv	
2	A BallotFile object is instantiated	File object from Step #1	A BallotFile object is instantiated using File object from Step #1 and does not throw an exception during construction.	A BallotFile object is instantiated using File object from Step #1 and does not throw an exception during construction.	
3					
4					

Post condition(s) for Test:

A BallotFile object is instantiated without any exceptions being thrown.

Project Name: Project 1: Voting System

Team#17

Test Stage: Unit x System

Test Date: 11/12/2018

Test Case ID#: Koo_BallotFile_002

Name(s) of Testers: Justin Koo

Test Description: Test method is named
BallotFileConstructorThrowsIOException() located in
BallotFileTest.java. It tests/uses the BallotFile constructor.

Automated: yes x no

Results: Pass x Fail

Preconditions for Test: An invalid File object is passed into the BallotFile constructor.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	An invalid File object is instantiated	doesnotexist.csv	A File object pointing to doesnotexist.csv is instantiated	A File object pointing to doesnotexist.csv is instantiated	
2	A BallotFile object is instantiated	File object from step #1	BallotFile constructor throws an IOException	BallotFile constructor throws an IOException	
3					
4					

Post condition(s) for Test:

An IOException is thrown indicating that “doesnotexist.csv” cannot be read.

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/12/2018**Test Case ID#:** Koo_BallotFile_003**Name(s) of Testers:** Justin Koo**Test Description:** Test method is named
getFilenameSimpleOPL() located in BallotFile.java. It tests/uses
the getFilename method of the BallotFile class.**Automated:** yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A BallotFile has been instantiated without any errors.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Instantiated a BallotFile	simple_opl_ballot_file.csv	A BallotFile object is instantiated.	A BallotFile object is instantiated	
2	call the getFilename method	The BallotFile instance in step #1	returns "simple_opl_ballot_file.csv"	returns "simple_opl_ballot_file.csv"	
3					
4					

Post condition(s) for Test:

"simple_opl_ballot_file.csv" is returned from the getFilename method call.

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit x System **Test Date:** 11/12/2018**Test Case ID#:** Koo_BallotFile_004**Name(s) of Testers:** Justin Koo**Test Description:** Test method is named getLine3SimpleOPL() located in BallotFileTest.java. It tests/uses the getLine() method of the class.**Automated:** yes x no **Results:** Pass x Fail **Preconditions for Test:** A BallotFile has been instantiated without any errors

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Instantiated a BallotFile	simple_opl_ballot_file.csv	A BallotFile object is instantiated.	A BallotFile object is instantiated	
2	call getLine(3)	the BallotFile object in step #1	returns "[Pike,D], [Foster,D],[Deutsch,R], [Borg,R], [Jones,R],[Smith,I]"	returns "[Pike,D], [Foster,D],[Deutsch,R], [Borg,R], [Jones,R],[Smith,I]"	
3					
4					

Post condition(s) for Test:

returns "[Pike,D], [Foster,D],[Deutsch,R], [Borg,R], [Jones,R],[Smith,I]"

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/12/2018**Test Case ID#:** Koo_BallotFile_005**Name(s) of Testers:** Justin Koo**Test Description:** Test method is named
getLastLineSimpleOPL() located in BallotFileTest.java. It
tests/uses the getLine() method of the class.**Automated:** yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A BallotFile has been instantiated without any errors

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Instantiated a BallotFile	simple opl ballot file.csv	A BallotFile object is instantiated.	A BallotFile object is instantiated	
2	call getLine() for the last line	the BallotFile object in step #1 at the last line	returns ",1,,,"	returns ",1,,,"	
3					
4					

Post condition(s) for Test:

returns ",1,,,"

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/12/2018**Test Case ID#:** Koo_BallotFile_006**Name(s) of Testers:** Justin Koo

Test Description: Test method is named
getLineThrowsIndexOutOfBoundsExceptionSimpleOPL()
located in BallotFileTest.java. It tests/uses the getLine() method
of the class.

Automated: yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A BallotFile has been instantiated without any errors

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Instantiated a BallotFile	simple_opl_ballot_file.csv	A BallotFile object is instantiated.	A BallotFile object is instantiated	
2	call getLine() for a line that does not exist	the BallotFile object in step #1 at last line + 1	throws an IndexOutOfBoundsException	throws an IndexOutOfBoundsException	
3					
4					

Post condition(s) for Test:

throws an IndexOutOfBoundsException

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/12/2018**Test Case ID#:** Koo_BallotFile_007**Name(s) of Testers:** Justin Koo**Test Description:** Test method is named
getElectionTypeSimpleOPL located in BallotFileTest.java. It
tests/uses the getElectionType method of the class.**Automated:** yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A BallotFile has been instantiated without any errors

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Instantiated a BallotFile	simple opl ballot file.csv	A BallotFile object is instantiated.	A BallotFile object is instantiated	
2	call getElectionType	the BallotFile object in step #1	returns "OPL"	returns "OPL"	
3					
4					

Post condition(s) for Test:

returns "OPL"

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/12/2018**Test Case ID#:** Koo_Candidate_001**Name(s) of Testers:** Justin Koo**Test Description:** Test method is named candidateConstructor() located in Candidate.java. It tests/uses the constructor of the Candidate class.**Automated:** yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** None

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	instantiate a new Candidate instance	name: "McCain" party: "R"	no exceptions are thrown, i.e. the construction was successful	no exceptions are thrown	
2					
3					
4					

Post condition(s) for Test:

no exceptions are thrown after instantiation of a new candidate

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/12/2018**Test Case ID#:** Koo_Candidate_002**Name(s) of Testers:** Justin Koo**Test Description:** Test method is named getName() located in CandidateTest.java. It tests/uses the getName() method of the Candidate class**Automated:** yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A Candidate object is instantiated

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	instantiate a new Candidate instance	name: "Borg" party: "D"	a new Candidate is instantiated	a new Candidate is instantiated	
2	call getName()	using the Candidate object in step #1	returns "Borg"	returns "Borg"	
3					
4					

Post condition(s) for Test:

returns "Borg"

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/12/2018**Test Case ID#:** Koo_Candidate_003**Name(s) of Testers:** Justin Koo**Test Description:** Test method is named getParty() located in CandidateTest.java. It tests/uses the getParty() method of the Candidate class**Automated:** yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A Candidate object is instantiated

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	instantiate a new Candidate instance	name: "Borg" party: "D"	a new Candidate is instantiated	a new Candidate is instantiated	
2	call getParty	using the Candidate object in step #1	returns "D"	returns "D"	
3					
4					

Post condition(s) for Test:

returns "D"

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/12/2018**Test Case ID#:** Koo_Candidate_004**Name(s) of Testers:** Justin Koo**Test Description:** Test method is named getNumVotes() located in CandidateTest.java. It tests/uses the getNumVotes() method of the Candidate class**Automated:** yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A Candidate object is instantiated

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	instantiate a new Candidate instance	name: "Borg" party: "D"	a new Candidate is instantiated	a new Candidate is instantiated	
2	call getNumVotes()	using the Candidate object in step #1	returns 0	returns 0	
3					
4					

Post condition(s) for Test:

returns 0

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit x System **Test Date:** 11/12/2018**Test Case ID#:** Koo_Candidate_005**Name(s) of Testers:** Justin Koo

Test Description: Test method is named
getAcquiredBallotsIsEmpty() located in CandidateTest.java. It
tests/uses the getAcquiredBallots() method of the Candidate class

Automated: yes x no **Results:** Pass x Fail **Preconditions for Test:** A Candidate object is instantiated

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	instantiate a new Candidate instance	name: "Borg" party: "D"	a new Candidate is instantiated	a new Candidate is instantiated	
2	call getAcquiredBallots()	using the Candidate object in step #1	returns an empty List	returns an empty List	
3					
4					

Post condition(s) for Test:

returns an empty List

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/12/2018**Test Case ID#:** Koo_Candidate_006**Name(s) of Testers:** Justin Koo**Test Description:** Test method is named setName() located in CandidateTest.java. It tests/uses the setName(), getName() methods of the Candidate class**Automated:** yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A Candidate object is instantiated

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	instantiate a new Candidate instance	name: "Borg" party: "D"	a new Candidate is instantiated	a new Candidate is instantiated	
2	call setName(newname)	newname = "Pike"	see step #3	see step #3	
3	call getName()	Candidate object from step #1 after step #2	returns "Pike"	returns "Pike"	
4					

Post condition(s) for Test:

member variable name is set to "Pike"

Project Name: Project 1: Voting System

Team#17

Test Stage: Unit ☒ System ☐

Test Date: 11/12/2018

Test Case ID#: Koo_Candidate_007

Name(s) of Testers: Justin Koo

Test Description: Test method is named setParty() located in CandidateTest.java. It tests/uses the setParty(), getParty() methods of the Candidate class

Automated: yes ☒ no ☐

Results: Pass ☒ Fail ☐

Preconditions for Test: A Candidate object is instantiated

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	instantiate a new Candidate instance	name: "Borg" party: "D"	a new Candidate is instantiated	a new Candidate is instantiated	
2	call setParty(newparty)	newparty = "R"	see step #3	see step #3	
3	call getParty()	Candidate object from step #1 after step #2	returns "R"	returns "R"	
4					

Post condition(s) for Test:

member variable party is set to "R"

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/12/2018**Test Case ID#:** Koo_Candidate_008**Name(s) of Testers:** Justin Koo**Test Description:** Test method is named
acquireBallotCorrectBallot() located in CandidateTest.java. It
tests/uses the acquireBallot() method of the Candidate class**Automated:** yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A Candidate object is instantiated

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	instantiate a new Candidate instance	name: "Borg" party: "D"	a new Candidate is instantiated	a new Candidate is instantiated	
2	call acquireBallot(ballot_id)	ballot_id = 0	see step #3	see step #3	
3	call getAcquiredBallots().get(0)	The Candidate object from step #1 after step #2	returns 0	returns 0	
4					

Post condition(s) for Test:

member variable acquired_ballots has 0 at index 0.

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/12/2018**Test Case ID#:** Koo_Candidate_009**Name(s) of Testers:** Justin Koo

Test Description: Test method is named
getAcquiredBallotsCorrectNumVotes() located in
CandidateTest.java. It tests/uses the getAcquiredBallots(),
getNumVotes() methods of the Candidate class

Automated: yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A Candidate object is instantiated

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	instantiate a new Candidate instance	name: "Borg" party: "D"	a new Candidate is instantiated	a new Candidate is instantiated	
2	call acquireBallot(ballot_id)	ballot_id = 0	see step #3	see step #3	
3	call getNumVotes()	Candidate object from step #1 after step #2	returns 1	returns 1	
4					

Post condition(s) for Test:

member variable acquired_ballots has 1 element in the list

Project Name: Project 1: Voting System

Team#17

Test Stage: Unit ☒ System ☐

Test Date: 11/13/2018

Test Case ID#: Koo_Party_001

Name(s) of Testers: Justin Koo

Test Description: Test method is named partyConstructor() located in PartyTest.java. It tests/uses the constructor for the Party class to make sure no errors are thrown during instantiation.

Automated: yes ☒ no ☐

Results: Pass ☒ Fail ☐

Preconditions for Test: none

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	instantiate a new Party instance	name: "R" num_candidates: 100	no exceptions are thrown, i.e. the construction was successful	no exceptions are thrown	
2					
3					
4					

Post condition(s) for Test:

no exceptions are thrown during construction

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/13/2018**Test Case ID#:** Koo_Party_002**Name(s) of Testers:** Justin Koo**Test Description:** Test method is named getName() located in PartyTest.java. It tests/uses the getName() method for the Party class.**Automated:** yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A party object is instantiated

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	instantiate a new Party instance	name: "D" num_candidates: 3	a new Party is instantiated	a new Party is instantiated	
2	call getName()	The Party object from step #1	returns "D"	returns "D"	
3					
4					

Post condition(s) for Test:

returns "D"

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/13/2018**Test Case ID#:** Koo_Party_003**Name(s) of Testers:** Justin Koo**Test Description:** Test method is named getNumCandidates() located in PartyTest.java. It tests/uses the getNumCandidates() method for the Party class.**Automated:** yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A party object is instantiated

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	instantiate a new Party instance	name: "D" num_candidates: 3	a new Party is instantiated	a new Party is instantiated	
2	call getNumCandidates	The Party object from step #1	returns 3	returns 3	
3					
4					

Post condition(s) for Test:

returns 3

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/12/2018**Test Case ID#:** Koo_Party_004**Name(s) of Testers:** Justin Koo**Test Description:** Test method is named getNumSeats() located in PartyTest.java. It tests/uses the getNumSeats() method for the Party class.**Automated:** yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A party object is instantiated

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	instantiate a new Party instance	name: "D" num_candidates: 3	a new Party is instantiated	a new Party is instantiated	
2	call getNumSeats()	The Party object from step #1	returns 0	returns 0	
3					
4					

Post condition(s) for Test:

returns 0

Project Name: Project 1: Voting System

Team#17

Test Stage: Unit ☒ System ☐

Test Date: 11/12/2018

Test Case ID#: Koo_Party_005

Name(s) of Testers: Justin Koo

Test Description: Test method is named getNumVotes() located in PartyTest.java. It tests/uses the getNumVotes() method for the Party class.

Automated: yes ☒ no ☐

Results: Pass ☒ Fail ☐

Preconditions for Test: A party object is instantiated

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	instantiate a new Party instance	name: "D" num_candidates: 3	a new Party is instantiated	a new Party is instantiated	
2	call getNumVotes()	The Party object from step #1	returns 0	returns 0	
3					
4					

Post condition(s) for Test:

returns 0

Project Name: Project 1: Voting System

Team#17

Test Stage: Unit ☒ System ☐

Test Date: 11/12/2018

Test Case ID#: Koo_Party_006

Name(s) of Testers: Justin Koo

Test Description: Test method is named
getAcquiredBallotsIsEmpty() located in PartyTest.java. It
tests/uses the getAcquiredBallots() method for the Party class.

Automated: yes ☒ no ☐

Results: Pass ☒ Fail ☐

Preconditions for Test: A party object is instantiated

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	instantiate a new Party instance	name: "D" num_candidates: 3	a new Party is instantiated	a new Party is instantiated	
2	call getAcquiredBallots()	The Party object from step #1	returns an empty list	returns an empty list	
3					
4					

Post condition(s) for Test:

returns an empty list

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/12/2018**Test Case ID#:** Koo_Party_007**Name(s) of Testers:** Justin Koo**Test Description:** Test method is named setName() located in PartyTest.java. It tests/uses the setName() and getName() methods for the Party class.**Automated:** yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A party object is instantiated

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	instantiate a new Party instance	name: "D" num_candidates: 3	a new Party is instantiated	a new Party is instantiated	
2	call setName(newname)	newname = "R"	see step #3	see step #3	
3	call getName()	the Party object from step #1 after step #2	returns "R"	returns "R"	
4					

Post condition(s) for Test:

returns "R"

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit x System **Test Date:** 11/12/2018**Test Case ID#:** Koo_Party_008**Name(s) of Testers:** Justin Koo**Test Description:** Test method is named setNumCandidates() located in PartyTest.java. It tests the setNumCandidates(), getNumCandidates method for the Party class.**Automated:** yes x no **Results:** Pass x Fail **Preconditions for Test:** A party object is instantiated

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	instantiate a new Party instance	name: "D" num_candidates: 3	a new Party is instantiated	a new Party is instantiated	
2	call setNumCandidates(newnum)	newnum= 4	see step #3	see step #3	
3	call getNumCandidates()	the Party object from step #1 after step #2	returns 4	returns 4	
4					

Post condition(s) for Test:

returns 4

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/13/2018**Test Case ID#:** Koo_Party_009**Name(s) of Testers:** Justin Koo

Test Description: Test method is named
getAcquiredBallotsCorrectNumVotes() located in
PartyTest.java. It tests/uses the acquireBallot() method of the
Party class

Automated: yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A Party object is instantiated

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	instantiate a new Party instance	name: "D" party: "3"	a new Candidate is instantiated	a new Candidate is instantiated	
2	call acquireBallot(ballot_id)	ballot_id = 0	see step #3	see step #3	
3	call getAcquiredBallots().get(0)	The Party object from step #1 after step #2	returns 0	returns 0	
4					

Post condition(s) for Test:

member variable acquired_ballots has 0 at index 0.

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit x System **Test Date:** 11/13/2018**Test Case ID#:** Koo_Party_010**Name(s) of Testers:** Justin Koo**Test Description:** Test method is named
acquireBallotCorrectNumVotes() located in PartyTest.java. It
tests/uses the getAcquiredBallots() method of the Party class**Automated:** yes x no **Results:** Pass x Fail **Preconditions for Test:** A Party object is instantiated

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	instantiate a new Party instance	name: "D" party: "3"	a new Candidate is instantiated	a new Candidate is instantiated	
2	call acquireBallot(ballot_id)	ballot_id = 0	see step #3	see step #3	
3	call getNumVotes()	The Party object from step #1 after step #2	returns 1	returns 1	
4					

Post condition(s) for Test:

member variable acquired_ballots has 1 element in the list

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/13/2018**Test Case ID#:** Koo_UserInterface_001**Name(s) of Testers:** Justin Koo

Test Description: Test method is named
UserInterfaceConstructor located in UserInterfaceTest.java. It
tests that no exceptions are thrown when an UserInterface object
is instantiated.

Automated: yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** None

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A new UserInterface object is instantiated	none	No exceptions are thrown	no exceptions are thrown	
2					
3					
4					

Post condition(s) for Test:

no exceptions are thrown during the constructor call of the UserInterface class.

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/13/2018**Test Case ID#:** Koo_UserInterface_002**Name(s) of Testers:** Justin Koo**Test Description:** Test whether the method requestBallotFilename() of the UserInterface class displays to the console a prompt for the user to enter a ballot file name.**Automated:** yes ☐ no ☒**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A UserInterface object is instantiated

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Tester runs VotingSystem.java	none	The console displays a prompt for users to enter a ballot filename	The console displays a prompt for users to enter a ballot filename.	
2					
3					
4					

Post condition(s) for Test:

The user can see a prompt from the console to enter a ballot filename.

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/13/2018**Test Case ID#:** Koo_UserInterface_003**Name(s) of Testers:** Justin Koo

Test Description: Test whether the method displayInvalidElectionType() of the UserInterface class displays to the console information informing the user about an invalid election type encountered.

Automated: yes ☐ no ☒**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A UserInterface object is instantiated

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Tester runs VotingSystem.java	none	The console displays a prompt for users to enter a ballot filename	The console displays a prompt for users to enter a ballot filename.	
2	Tester enters a filename	invalid_election_type_ballot_file.csv	The console informs the user that the election type encountered, "CPL" is unexpected.	The console informs the user that the election type encountered, "CPL" is unexpected.	
3					
4					

Post condition(s) for Test:

The console informs the user that the election type encountered "CPL" is unexpected. The console displays a prompt for a second time for users to enter a ballot filename.

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/13/2018**Test Case ID#:** Koo_UserInterface_004**Name(s) of Testers:** Justin Koo

Test Description: Test whether the method
displayExceptionMessage() of the UserInterface class displays to
the console the exception message of any exception that is thrown
when reading the given ballot file.

Automated: yes ☐ no ☒**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A UserInterface object is instantiated

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Tester runs VotingSystem.java	none	The console displays a prompt for users to enter a ballot filename	The console displays a prompt for users to enter a ballot filename.	
2	Tester enters a filename string	any string that denotes a filename that does not exist within the src/ directory	The console informs the user that the system could not find the file specified.	The console informs the user that the system could not find the file specified.	
3					
4					

Post condition(s) for Test:

The console informs the user that the system could not find the file specified. The console displays a prompt for users a second time to enter a ballot filename.

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/13/2018**Test Case ID#:** Koo_UserInterface_005**Name(s) of Testers:** Justin Koo**Test Description:** Test whether the method displayResults() of the UserInterface class displays to the console the summarized results of the election.**Automated:** yes ☐ no ☒**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A UserInterface object is instantiated

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Tester runs VotingSystem.java	none	The console displays a prompt for users to enter a ballot filename	The console displays a prompt for users to enter a ballot filename.	
2	Tester enters a filename string	simple_opl_ballot_file.csv	The console displays some result to the user (may not be correct, but nonempty)	The console displays some result to the user (may not be correct, but nonempty)	
3					
4					

Post condition(s) for Test:

The console displays some information informing the user about the election within “simple_opl_ballot_file.csv”. These informations may not be necessarily correct, but it should be nonempty.

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/13/2018**Test Case ID#:** Koo_OPLElection_001**Name(s) of Testers:** Justin Koo

Test Description: Test method is named OPLElectionConstructorSimpleOPL located in OPLElectionTest.java. It tests that no exceptions are thrown during the constructor call if a valid BallotFile object is provided as an argument.

Automated: yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A valid BallotFile object is passed into the OPLElection constructor.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A valid BallotFile object is instantiated	simple_opl_ballot_file.csv	A valid BallotFile object is created. No exceptions thrown.	A valid BallotFile object is created. No Exceptions thrown	
2	Instantiate a new OPLElection object	pass the BallotFile object in step #1 into the constructor	No exceptions are thrown	No exceptions thrown.	
3					
4					

Post condition(s) for Test:

A new OPLElection object is instantiated without any errors being thrown.

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/13/2018**Test Case ID#:** Koo_OPLElection_002**Name(s) of Testers:** Justin Koo

Test Description: Test method is
getNumCandidatesSimpleOPL() located in
OPLElectionTest.java. It tests the getNumCandidates() method of
the OPLElection class.

Automated: yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A valid BallotFile object is passed into the OPLElection constructor.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A valid BallotFile object is instantiated	simple_opl_ballot_file.csv	A valid BallotFile object is created. No exceptions thrown.	A valid BallotFile object is created. No Exceptions thrown	
2	Instantiate a new OPLElection object	pass the BallotFile object in step #1 into the constructor	No exceptions are thrown	No exceptions thrown.	
3	call getNumCandidates()	using the OPLElection object in step #2	returns 6	returns 6	
4					

Post condition(s) for Test:

returns 6

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit x System **Test Date:** 11/13/2018**Test Case ID#:** Koo_OPLElection_003**Name(s) of Testers:** Justin Koo**Test Description:** Test method is getNumSeatsSimpleOPL() located in OPLElectionTest.java. It tests the getNumSeats() method of the OPLElection class.**Automated:** yes x no **Results:** Pass x Fail **Preconditions for Test:** A valid BallotFile object is passed into the OPLElection constructor.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A valid BallotFile object is instantiated	simple_opl_ballot_file.csv	A valid BallotFile object is created. No exceptions thrown.	A valid BallotFile object is created. No Exceptions thrown	
2	Instantiate a new OPLElection object	pass the BallotFile object in step #1 into the constructor	No exceptions are thrown	No exceptions thrown.	
3	call getNumSeats()	using the OPLElection object in step #2	returns 3	returns 3	
4					

Post condition(s) for Test:

returns 6

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/13/2018**Test Case ID#:** Koo_OPLElection_004**Name(s) of Testers:** Justin Koo**Test Description:** Test method is getNumBallotsSimpleOPL() located in OPLElectionTest.java. It tests the getNumBallots() method of the OPLElection class.**Automated:** yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A valid BallotFile object is passed into the OPLElection constructor.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A valid BallotFile object is instantiated	simple_opl_ballot_file.csv	A valid BallotFile object is created. No exceptions thrown.	A valid BallotFile object is created. No Exceptions thrown	
2	Instantiate a new OPLElection object	pass the BallotFile object in step #1 into the constructor	No exceptions are thrown	No exceptions thrown.	
3	call getNumBallots()	using the OPLElection object in step #2	returns 9	returns 9	
4					

Post condition(s) for Test:

returns 9

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit x System **Test Date:** 11/13/2018**Test Case ID#:** Koo_OPLElection_005**Name(s) of Testers:** Justin Koo**Test Description:** Test method is getQuotaSimpleOPL() located in OPLElectionTest.java. It tests the getQuota() method of the OPLElection class.**Automated:** yes x no **Results:** Pass x Fail **Preconditions for Test:** A valid BallotFile object is passed into the OPLElection constructor.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A valid BallotFile object is instantiated	simple_opl_ballot_file.csv	A valid BallotFile object is created. No exceptions thrown.	A valid BallotFile object is created. No Exceptions thrown	
2	Instantiate a new OPLElection object	pass the BallotFile object in step #1 into the constructor	No exceptions are thrown	No exceptions thrown.	
3	call getQuota()	using the OPLElection object in step #2	returns 3	returns 3	
4					

Post condition(s) for Test:

returns 3

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/13/2018**Test Case ID#:** Koo_OPLElection_006**Name(s) of Testers:** Justin Koo

Test Description: Test method is
getCandidatesNamesSimpleOPL() located in
OPLElectionTest.java. It tests the getCandidates() method of the
OPLElection class.

Automated: yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A valid BallotFile object is passed into the OPLElection constructor.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A valid BallotFile object is instantiated	simple opl ballot file.csv	A valid BallotFile object is created. No exceptions thrown.	A valid BallotFile object is created. No Exceptions thrown	
2	Instantiate a new OPLElection object	pass the BallotFile object in step #1 into the constructor	No exceptions are thrown	No exceptions thrown.	
3	call getCandidates()	using the OPLElection object in step #2	returns a Candidate[]	returns a Candidate[]	
4	Assert names are correct by calling getName() on each Candidate in the Candidate[]	using the Candidate[] in step #3	Candidate[] from step #3 contains candidates with names {"Pike", "Foster", "Deutsch", "Borg", "Jones", "Smith"}	Candidate[] from step #3 contains candidates with names {"Pike", "Foster", "Deutsch", "Borg", "Jones", "Smith"}	

Post condition(s) for Test:

A Candidate[] is returned containing Candidate objects that have the correct names.

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/13/2018**Test Case ID#:** Koo_OPLElection_007**Name(s) of Testers:** Justin Koo

Test Description: Test method is getCandidatesPartiesSimpleOPL() located in OPLElectionTest.java. It tests the getCandidates() method of the OPLElection class.

Automated: yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A valid BallotFile object is passed into the OPLElection constructor.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A valid BallotFile object is instantiated	simple opl ballot file.csv	A valid BallotFile object is created. No exceptions thrown.	A valid BallotFile object is created. No Exceptions thrown	
2	Instantiate a new OPLElection object	pass the BallotFile object in step #1 into the constructor	No exceptions are thrown	No exceptions thrown.	
3	call getCandidates()	using the OPLElection object in step #2	returns a Candidate[]	returns a Candidate[]	
4	Assert parties are correct by calling getParty() on each Candidate in the Candidate[]	using the Candidate[] in step #3	Candidate[] from step #3 contains candidates with parties {"D", "D", "R", "R", "I"}	Candidate[] from step #3 contains candidates with parties {"D", "D", "R", "R", "R", "I"}	

Post condition(s) for Test:

A Candidate[] is returned containing Candidate objects that have the correct parties.

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit x System **Test Date:** 11/13/2018**Test Case ID#:** Koo_OPLElection_008**Name(s) of Testers:** Justin Koo**Test Description:** Test method is getPartiesNamesSimpleOPL() located in OPLElectionTest.java. It tests the getParties() method of the OPLElection class.**Automated:** yes x no **Results:** Pass x Fail **Preconditions for Test:** A valid BallotFile object is passed into the OPLElection constructor.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A valid BallotFile object is instantiated	simple_opl_ballot_file.csv	A valid BallotFile object is created. No exceptions thrown.	A valid BallotFile object is created. No Exceptions thrown	
2	Instantiate a new OPLElection object	pass the BallotFile object in step #1 into the constructor	No exceptions are thrown	No exceptions thrown.	
3	call getParties()	using the OPLElection object in step #2	returns a Party[]	returns a Party[]	
4	Assert parties names are correct by calling getName() on each Party in the Party[]	using the Party[] in step #3	Party[] from step #3 contains parties with party names: {"D","R","I"}	Party[] from step #3 contains parties with party names: {"D","R","I"}	

Post condition(s) for Test:

A Party[] is returned containing Party objects that have the correct party names.

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit x System **Test Date:** 11/13/2018**Test Case ID#:** Koo_OPLElection_009**Name(s) of Testers:** Justin Koo

Test Description: Test method is
getPartiesNumCandidatesSimpleOPL() located in
OPLElectionTest.java. It tests the getParties() method of the
OPLElection class.

Automated: yes x no **Results:** Pass x Fail **Preconditions for Test:** A valid BallotFile object is passed into the OPLElection constructor.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A valid BallotFile object is instantiated	simple_opl_ballot_file.csv	A valid BallotFile object is created. No exceptions thrown.	A valid BallotFile object is created. No Exceptions thrown	
2	Instantiate a new OPLElection object	pass the BallotFile object in step #1 into the constructor	No exceptions are thrown	No exceptions thrown.	
3	call getParties()	using the OPLElection object in step #2	returns a Party[]	returns a Party[]	
4	Assert number of candidates of parties names are correct by calling getNumCandidates() on each Party in the Party[]	using the Party[] in step #3	Party[] from step #3 contains parties with num candidates: {2, 3, 1}	Party[] from step #3 contains parties with num candidates: {2, 3, 1}	

Post condition(s) for Test:

A Party[] is returned containing Party objects that have the correct number of candidates.

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/13/2018**Test Case ID#:** Koo_OPLElection_010**Name(s) of Testers:** Justin Koo

Test Description: Test method is
getCandidateWinnersNotEmptySimpleOPL() located in
OPLElectionTest.java. It tests the getCandidateWinners() method
of the OPLElection class.

Automated: yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A valid BallotFile object is passed into the OPLElection constructor.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A valid BallotFile object is instantiated	simple opl ballot file.csv	A valid BallotFile object is created. No exceptions thrown.	A valid BallotFile object is created. No Exceptions thrown	
2	Instantiate a new OPLElection object	pass the BallotFile object in step #1 into the constructor	No exceptions are thrown	No exceptions thrown.	
3	call getCandidateWinners()	using the OPLElection object in step #2	returns a nonempty Set<Candidate>	returns a nonempty Set<Candidate>	

Post condition(s) for Test:

returns a nonempty Set<Candidate>

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/13/2018**Test Case ID#:** Koo_OPLElection_011**Name(s) of Testers:** Justin Koo

Test Description: Test method is
toStringNotEmptySimpleOPL() located in OPLElectionTest.java.
It tests the toString() method of the OPLElection class.

Automated: yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A valid BallotFile object is passed into the OPLElection constructor.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A valid BallotFile object is instantiated	simple opl ballot file.csv	A valid BallotFile object is created. No exceptions thrown.	A valid BallotFile object is created. No Exceptions thrown	
2	Instantiate a new OPLElection object	pass the BallotFile object in step #1 into the constructor	No exceptions are thrown	No exceptions thrown.	
3	call toString()	using the OPLElection object in step #2	returns a nonempty String	returns a nonempty String	due to randomness when a tie occurs, the string returned will not always be the same

Post condition(s) for Test:

returns a nonempty String

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/13/2018**Test Case ID#:** Koo_OPLElection_010**Name(s) of Testers:** Justin Koo

Test Description: Test method is
getPartyWinnersNotEmptySimpleOPL() located in
OPLElectionTest.java. It tests the getPartyWinners() method of
the OPLElection class.

Automated: yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A valid BallotFile object is passed into the OPLElection constructor.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A valid BallotFile object is instantiated	simple opl ballot file.csv	A valid BallotFile object is created. No exceptions thrown.	A valid BallotFile object is created. No Exceptions thrown	
2	Instantiate a new OPLElection object	pass the BallotFile object in step #1 into the constructor	No exceptions are thrown	No exceptions thrown.	
3	call getPartyWinners()	using the OPLElection object in step #2	returns a nonempty Set<Party>	returns a nonempty Set<Party>	

Post condition(s) for Test:

returns a nonempty Set<Party>

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ___ System _x_**Test Date:** 11/13/2018**Test Case ID#:** Koo_System_001**Name(s) of Testers:** Justin Koo

Test Description: Test method is named VotingSystemIRBallotFile1NoErrors() located in SystemTest.java. It tests whether the program can run without errors using ir_ballot_file_1.csv.

Automated: yes_x___ no ___**Results:** Pass_x___ Fail ___**Preconditions for Test:** None

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Main method is invoked with "ir_ballot_file_1.csv" as input into System.in	ir_ballot_file_1.csv	No errors/exceptions thrown	No errors/exceptions thrown	
2					
3					

Post condition(s) for Test:

No errors/exceptions thrown

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ___ System _x_**Test Date:** 11/13/2018**Test Case ID#:** Koo_System_002**Name(s) of Testers:** Justin Koo

Test Description: Test method is named VotingSystemIRBallotFile2NoErrors() located in SystemTest.java. It tests whether the program can run without errors using ir_ballot_file_2.csv.

Automated: yes _x_ no ___**Results:** Pass _x_ Fail ___**Preconditions for Test:** None

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Main method is invoked with "ir_ballot_file_2.csv" as input into System.in	ir_ballot_file_2.csv	No errors/exceptions thrown	No errors/exceptions thrown	
2					
3					

Post condition(s) for Test:

No errors/exceptions thrown

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ___ System _x_**Test Date:** 11/13/2018**Test Case ID#:** Koo_System_003**Name(s) of Testers:** Justin Koo

Test Description: Test method is named VotingSystemIRBallotFile3NoErrors() located in SystemTest.java. It tests whether the program can run without errors using ir_ballot_file_3.csv.

Automated: yes_x no ___**Results:** Pass_x Fail ___**Preconditions for Test:** None

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Main method is invoked with "ir_ballot_file_3.csv" as input into System.in	ir_ballot_file_3.csv	No errors/exceptions thrown	No errors/exceptions thrown	
2					
3					

Post condition(s) for Test:

No errors/exceptions thrown

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☐ System ☒**Test Date:** 11/13/2018**Test Case ID#:** Koo_System_004**Name(s) of Testers:** Justin Koo

Test Description: Test method is named VotingSystemIRBallotFile1NoErrors() located in SystemTest.java. It tests whether the program can run without errors using ir_ballot_file_4.csv.

Automated: yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** None

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Main method is invoked with "ir_ballot_file_4.csv" as input into System.in	ir_ballot_file_4.csv	No errors/exceptions thrown	No errors/exceptions thrown	
2					
3					

Post condition(s) for Test:

No errors/exceptions thrown

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ___ System _x_**Test Date:** 11/13/2018**Test Case ID#:** Koo_System_005**Name(s) of Testers:** Justin Koo

Test Description: Test method is named VotingSystemIRBallotFile5NoErrors() located in SystemTest.java. It tests whether the program can run without errors using ir_ballot_file_5.csv.

Automated: yes_x__ no ___**Results:** Pass_x__ Fail ___**Preconditions for Test:** None

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Main method is invoked with "ir_ballot_file_5.csv" as input into System.in	ir_ballot_file_5.csv	No errors/exceptions thrown	No errors/exceptions thrown	
2					
3					

Post condition(s) for Test:

No errors/exceptions thrown

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ___ System _x_**Test Date:** 11/13/2018**Test Case ID#:** Koo_System_006**Name(s) of Testers:** Justin Koo

Test Description: Test method is named
VotingSystemSimpleIRBallotFileNoErrors() located in
SystemTest.java. It tests whether the program can run without
error using simple_ir_ballot_file.csv.

Automated: yes_x___ no ___**Results:** Pass_x___ Fail ___**Preconditions for Test:** None

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Main method is invoked with "simple_ir_ballot_file.csv" as input into System.in	simple_ir_ballot_file.csv	No errors/exceptions thrown	No errors/exceptions thrown	
2					
3					

Post condition(s) for Test:

No errors/exceptions thrown

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ___ System _x_**Test Date:** 11/13/2018**Test Case ID#:** Koo_System_007**Name(s) of Testers:** Justin Koo

Test Description: Test method is named
VotingSystemLargeIRBallotFileNoErrors() located in
SystemTest.java. It tests whether the program can run without
error using large_ir_ballot_file.csv.

Automated: yes_x___ no ___**Results:** Pass_x___ Fail ___**Preconditions for Test:** None

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Main method is invoked with "large_ir_ballot_file.csv" as input into System.in	large_ir_ballot_file.csv	No errors/exceptions thrown	No errors/exceptions thrown	
2					
3					

Post condition(s) for Test:

No errors/exceptions thrown

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☐ System ☒**Test Date:** 11/13/2018**Test Case ID#:** Koo_System_008**Name(s) of Testers:** Justin Koo

Test Description: Test method is named
VotingSystemOPLBallotFile0Candidate0Seat0BallotNoErrors()
located in SystemTest.java. It tests whether the program can run
without errors using
opl_ballot_file_0_candidate_0_seat_0_ballot.csv

Automated: yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** None

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Main method is invoked with "opl_ballot_file_0_candidate_0_seat_0_ballot.csv" as input into System.in	opl_ballot_file_0_candidate_0_seat_0_ballot.csv	No errors/exceptions thrown	No errors/exceptions thrown	
2					
3					

Post condition(s) for Test:

No errors/exceptions thrown

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☐ System ☒**Test Date:** 11/13/2018**Test Case ID#:** Koo_System_009**Name(s) of Testers:** Justin Koo

Test Description: Test method is named
VotingSystemOPLBallotFile0Candidate1Seat0BallotNoErrors()
located in SystemTest.java. It tests whether the program can run
without errors using
opl_ballot_file_0_candidate_1_seat_0_ballot.csv

Automated: yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** None

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Main method is invoked with "opl_ballot_file_0_candidate_1_seat_0_ballot.csv" as input into System.in	opl_ballot_file_0_candidate_1_seat_0_ballot.csv	No errors/exceptions thrown	No errors/exceptions thrown	
2					
3					

Post condition(s) for Test:

No errors/exceptions thrown

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☐ System ☒**Test Date:** 11/13/2018**Test Case ID#:** Koo_System_010**Name(s) of Testers:** Justin Koo

Test Description: Test method is named
VotingSystemOPLBallotFile1Candidate0Seat0BallotNoErrors()
located in SystemTest.java. It tests whether the program can run
without errors using
opl_ballot_file_1_candidate_0_seat_0_ballot.csv

Automated: yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** None

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Main method is invoked with "opl_ballot_file_1_candidate_0_seat_0_ballot.csv" as input into System.in	opl_ballot_file_1_candidate_0_seat_0_ballot.csv	No errors/exceptions thrown	No errors/exceptions thrown	
2					
3					

Post condition(s) for Test:

No errors/exceptions thrown

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☐ System ☒**Test Date:** 11/13/2018**Test Case ID#:** Koo_System_011**Name(s) of Testers:** Justin Koo

Test Description: Test method is named
VotingSystemOPLBallotFile1Candidate0Seat1BallotNoErrors()
located in SystemTest.java. It tests whether the program can run
without errors using
opl_ballot_file_1_candidate_0_seat_1_ballot.csv

Automated: yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** None

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Main method is invoked with "opl_ballot_file_1_candidate_0_seat_1_ballot.csv" as input into System.in	opl_ballot_file_1_candidate_0_seat_1_ballot.csv	No errors/exceptions thrown	No errors/exceptions thrown	
2					
3					

Post condition(s) for Test:

No errors/exceptions thrown

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☐ System ☒**Test Date:** 11/13/2018**Test Case ID#:** Koo_System_012**Name(s) of Testers:** Justin Koo

Test Description: Test method is named
VotingSystemOPLBallotFile1Candidate1Seat0BallotNoErrors()
located in SystemTest.java. It tests whether the program can run
without errors using
opl_ballot_file_1_candidate_1_seat_0_ballot.csv

Automated: yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** None

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Main method is invoked with "opl_ballot_file_1_candidate_1_seat_0_ballot.csv" as input into System.in	opl_ballot_file_1_candidate_1_seat_0_ballot.csv	No errors/exceptions thrown	No errors/exceptions thrown	
2					
3					

Post condition(s) for Test:

No errors/exceptions thrown

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☐ System ☒**Test Date:** 11/13/2018**Test Case ID#:** Koo_System_013**Name(s) of Testers:** Justin Koo

Test Description: Test method is named
VotingSystemOPLBallotFile1Candidate1Seat1BallotNoErrors()
located in SystemTest.java. It tests whether the program can run
without errors using
opl_ballot_file_1_candidate_1_seat_1_ballot.csv

Automated: yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** None

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Main method is invoked with "opl_ballot_file_1_candidate_1_seat_1_ballot.csv" as input into System.in	opl_ballot_file_1_candidate_1_seat_1_ballot.csv	No errors/exceptions thrown	No errors/exceptions thrown	
2					
3					

Post condition(s) for Test:

No errors/exceptions thrown

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ___ System _x_**Test Date:** 11/13/2018**Test Case ID#:** Koo_System_014**Name(s) of Testers:** Justin Koo

Test Description: Test method is named VotingSystemSimpleOPLBallotFileNoErrors() located in SystemTest.java. It tests whether the program can run without errors using simple_opl_ballot_file.csv

Automated: yes_x___ no ___**Results:** Pass_x___ Fail ___**Preconditions for Test:** None

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Main method is invoked with "simple_opl_ballot_file" as input into System.in	simple_opl_ballot_file.csv	No errors/exceptions thrown	No errors/exceptions thrown	
2					
3					

Post condition(s) for Test:

No errors/exceptions thrown

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ___ System _x_**Test Date:** 11/13/2018**Test Case ID#:** Koo_System_015**Name(s) of Testers:** Justin Koo

Test Description: Test method is named
VotingSystemLargeOPLBallotFileNoErrors() located in
SystemTest.java. It tests whether the program can run without
errors using large_opl_ballot_file.csv

Automated: yes_x___ no ___**Results:** Pass_x___ Fail ___**Preconditions for Test:** None

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Main method is invoked with "large_opl_ballot_file.csv" as input into System.in	large_opl_ballot_file.csv	No errors/exceptions thrown	No errors/exceptions thrown	
2					
3					

Post condition(s) for Test:

No errors/exceptions thrown

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☐ System ☒**Test Date:** 11/13/2018**Test Case ID#:** Koo_System_016**Name(s) of Testers:** Justin Koo

Test Description: Test method is named VotingSystemLargeOPLBallotFileUnder8Minutes() located in SystemTest.java. It tests whether the program can run in under 8 minutes using large_opl_ballot_file.csv (100,000 ballots)

Automated: yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** None

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Main method is invoked with "large_opl_ballot_file.csv" as input into System.in	large_opl_ballot_file.csv	Finishes in under 8 minutes	Finishes in under 8 minutes	
2					
3					

Post condition(s) for Test:

Finishes in under 8 minutes

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ___ System _x_**Test Date:** 11/13/2018**Test Case ID#:** Koo_System_017**Name(s) of Testers:** Justin Koo

Test Description: Test method is named VotingSystemLargeIRBallotFileUnder8Minutes() located in SystemTest.java. It tests whether the program can run in under 8 minutes using large_ir_ballot_file.csv (100,000 ballots)

Automated: yes_x___ no___**Results:** Pass _x___ Fail_____**Preconditions for Test:** None

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Main method is invoked with "large_ir_ballot_file.csv" as input into System.in	large_irl_ballot_file.csv	Finishes in under 8 minutes	Finishes in under 8 minutes	
2					
3					

Post condition(s) for Test:

Finishes in under 8 minutes

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ___ System x**Test Date:** 11/13/2018**Test Case ID#:** Koo_System_018**Name(s) of Testers:** Justin Koo**Test Description:** Test to see if console output and auditfile contents are correct given input file "simple_opl_ballot_file.csv"**Automated:** yes ___ no x**Results:** Pass x Fail ___**Preconditions for Test:** None

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Main method is invoked with "simple_opl_ballot_file.csv" as input into System.in	simple_opl_ballot_file.csv	Console display correct summary results of winners. Audit file generated with correct contents, allowing one to track the election step by step.	Console display correct summary results of winners.. Audit file generated with correct contents, allowing one to track the election step by step.	
2					
3					

Post condition(s) for Test:

Console displays correct results. Audit file is generated. Audit file contains information allowing one to track election step by step.

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ___ System x**Test Date:** 11/13/2018**Test Case ID#:** Koo_System_019**Name(s) of Testers:** Justin Koo**Test Description:** Test to see if console output and auditfile contents are correct given input file "simple_ir_ballot_file.csv"**Automated:** yes ___ no x**Results:** Pass x Fail ___**Preconditions for Test:** None

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	Main method is invoked with "simple_ir_ballot_file.csv" as input into System.in	simple_ir_ballot_file.csv	Console display correct summary results of winners. Audit file generated with correct contents, allowing one to track the election step by step.	Console display correct summary results of winners.. Audit file generated with correct contents, allowing one to track the election step by step.	
2					
3					

Post condition(s) for Test:

Console displays correct results. Audit file is generated. Audit file contains information allowing one to track election step by step.

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit x System **Test Date:** 11/13/2018**Test Case ID#:** Zhang_IRElection_001**Name(s) of Testers:** Xiaochen Zhang

Test Description: Test method is named
IRElectionConstructorSimpleIR() located in IRElectionTest.java.
It tests that no exceptions are thrown during the constructor call if
a valid BallotFile object is provided as an argument.

Automated: yes x no **Results:** Pass x Fail **Preconditions for Test:** A valid BallotFile object is passed into the IRElection constructor.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A valid BallotFile object is instantiated	simple_ir_ballot_file.csv	A valid BallotFile object is created. No exceptions thrown.	A valid BallotFile object is created. No Exceptions thrown	
2	Instantiate a new IRElection object	pass the BallotFile object in step #1 into the constructor	No exceptions are thrown	No exceptions thrown.	
3					
4					

Post condition(s) for Test:

A new IRElection object is instantiated without any errors being thrown.

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/13/2018**Test Case ID#:** Zhang_IRelection_002**Name(s) of Testers:** Xiaochen Zhang**Test Description:** Test method is named testToStringSimpleIR() located in IRelectionTest.java. It tests the toString() method of the IRelection class.**Automated:** yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A valid File object is passed into the BallotFile constructor.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A valid BallotFile object is instantiated	simple_ir_ballot_file.csv	A valid BallotFile object is created. No exceptions thrown.	A valid BallotFile object is created. No Exceptions thrown	
2	Instantiate a new IRelection object	pass the BallotFile object in step #1 into the constructor	No exceptions are thrown	No exceptions thrown.	
3	call toString()	using the IRelection object in step #2	returns the correct string	returns the correct string	
4					

Post condition(s) for Test:

Returns a string with correct election type, number of candidates, list of candidates and parties, ballots number, and winning candidate.

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit x System **Test Date:** 11/13/2018**Test Case ID#:** Zhang_IRElection_003**Name(s) of Testers:** Xiaochen Zhang**Test Description:** Test method is named testCandidatesSimpleIR() located in IRElectionTest.java. It tests the getCandidates() method of the IRElection class.**Automated:** yes x no **Results:** Pass x Fail **Preconditions for Test:** A valid File object is passed into the BallotFile constructor.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A valid BallotFile object is instantiated	simple_ir_ballot_file.csv	A valid BallotFile object is created. No exceptions thrown.	A valid BallotFile object is created. No Exceptions thrown	
2	Instantiate a new IRElection object	pass the BallotFile object in step #1 into the constructor	No exceptions are thrown	No exceptions thrown.	
3	call getCandidates()	using the IRElection object in step #2	returns a list of all candidates	returns a list of all candidates	
4					

Post condition(s) for Test:

Returns a list of all candidates with names “Rosen”, “Kleinberg”, “Chou” and “Royce”

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit x System **Test Date:** 11/13/2018**Test Case ID#:** Zhang_IRElection_004**Name(s) of Testers:** Xiaochen Zhang

Test Description: Test method is testNumCandidatesSimpleIR() located in IRElectionTest.java. It tests the getNumCandidates() method of the IRElection class.

Automated: yes x no **Results:** Pass x Fail **Preconditions for Test:** A valid BallotFile object is passed into the IRElection constructor.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A valid BallotFile object is instantiated	simple_ir_ballot_file.csv	A valid BallotFile object is created. No exceptions thrown.	A valid BallotFile object is created. No Exceptions thrown	
2	Instantiate a new IRElection object	pass the BallotFile object in step #1 into the constructor	No exceptions are thrown	No exceptions thrown.	
3	call getNumCandidates()	using the IRElection object in step #2	returns 4	returns 4	
4					

Post condition(s) for Test:

returns 4

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/13/2018**Test Case ID#:** Zhang_IRElection_005**Name(s) of Testers:** Xiaochen Zhang**Test Description:** Test method is testNumBallotsSimpleIR() located in IRElectionTest.java. It tests the getNumBallots() method of the IRElection class.**Automated:** yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A valid BallotFile object is passed into the IRElection constructor.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A valid BallotFile object is instantiated	simple_ir_ballot_file.csv	A valid BallotFile object is created. No exceptions thrown.	A valid BallotFile object is created. No Exceptions thrown	
2	Instantiate a new IRElection object	pass the BallotFile object in step #1 into the constructor	No exceptions are thrown	No exceptions thrown.	
3	call getNumBallots()	using the IRElection object in step #2	returns 6	returns 6	
4					

Post condition(s) for Test:

returns 6

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit x System **Test Date:** 11/13/2018**Test Case ID#:** Zhang_IRElection_006**Name(s) of Testers:** Xiaochen Zhang

Test Description: Test method is
testWinningCandidateSimpleIR() located in IRElectionTest.java.
It tests the getCandidateWinners() method of the IRElection
class.

Automated: yes x no **Results:** Pass x Fail **Preconditions for Test:** A valid BallotFile object is passed into the IRElection constructor.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A valid BallotFile object is instantiated	simple_ir_ballot_file.csv	A valid BallotFile object is created. No exceptions thrown.	A valid BallotFile object is created. No Exceptions thrown	
2	Instantiate a new IRElection object	pass the BallotFile object in step #1 into the constructor	No exceptions are thrown	No exceptions thrown.	
3	call getCandidateWinners()	using the IRElection object in step #2	returns candidate with name "Rosen"	returns candidate with name "Rosen"	

Post condition(s) for Test:

returns candidate with name "Rosen"

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit x System **Test Date:** 11/13/2018**Test Case ID#:** Zhang_IRElection_007**Name(s) of Testers:** Xiaochen Zhang**Test Description:** Test method is testWinningPartySimpleIR() located in IRElectionTest.java. It tests the getPartyWinners() method of the IRElection class.**Automated:** yes x no **Results:** Pass x Fail **Preconditions for Test:** A valid BallotFile object is passed into the IRElection constructor.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A valid BallotFile object is instantiated	simple_ir_ballot_file.csv	A valid BallotFile object is created. No exceptions thrown.	A valid BallotFile object is created. No Exceptions thrown	
2	Instantiate a new IRElection object	pass the BallotFile object in step #1 into the constructor	No exceptions are thrown	No exceptions thrown.	
3	call getPartyWinners()	using the IRElection object in step #2	returns party with name "D"	returns party with name "D"	

Post condition(s) for Test:

returns party with name "D"

Project Name: Project 1: Voting System**Team#17****Test Stage:** Unit ☒ System ☐**Test Date:** 11/13/2018**Test Case ID#:** Zhang_IRElection_008**Name(s) of Testers:** Xiaochen Zhang**Test Description:** Test method is testQuota() located in IRElectionTest.java. It tests the getQuota() method of the IRElection class.**Automated:** yes ☒ no ☐**Results:** Pass ☒ Fail ☐**Preconditions for Test:** A valid BallotFile object is passed into the IRElection constructor.

Step #	Test Step Description	Test Data	Expected Result	Actual Result	Notes
1	A valid BallotFile object is instantiated	simple_ir_ballot_file.csv	A valid BallotFile object is created. No exceptions thrown.	A valid BallotFile object is created. No Exceptions thrown	
2	Instantiate a new IRElection object	pass the BallotFile object in step #1 into the constructor	No exceptions are thrown	No exceptions thrown.	
3	call getQuota()	using the IRElection object in step #2	returns 4	returns 4	

Post condition(s) for Test:

returns 4