

PBI_001 OPL Party Tiebreaking TEST 001
Team Member Responsible: Peter / Nikhil / Alex
Inputs: <ul style="list-style-type: none"> • A new OPLElection instance which takes in a sample ballot file <ul style="list-style-type: none"> ○ This election has 3 parties with 2 candidates each ○ The ballot file gives each party 2 votes for a total of 6 ○ 4 seats are to be allocated, so after the initial allocation 1 seat must be allocated via tiebreak
Tests: <ul style="list-style-type: none"> • Testing that the overall probability of winning the tiebreak is even between each party <ul style="list-style-type: none"> ○ This election is run 10 times. Each time, the winner of 2/4 seats, indicating the tiebreak winner, is noted.
Outputs <ul style="list-style-type: none"> • The proportion of times that a certain party won, as a percentage
Passed or Failed <ul style="list-style-type: none"> • Failed due to float values, but proportions were shown to be largely correct
Date: 05/02/21

PBI_002 Proper OPL Seat Allocation TEST 002
Team Member Responsible: Nikhil
Inputs: <ul style="list-style-type: none"> • An OPLElection where there are more parties than seats <ul style="list-style-type: none"> ○ This election has 3 parties with 2 candidates each ○ The ballot file gives 3 votes to one party, 2 to another, and 1 to the last ○ 2 seats are to be allocated, so the party with 3 votes should win a seat and the party with 2 votes should win the other
Tests: <ul style="list-style-type: none"> • Testing that the outcome is correct for the given scenario <ul style="list-style-type: none"> ○ Should also be consistent for multiple different runs
Outputs: <ul style="list-style-type: none"> • The results of the election
Passed or Failed <ul style="list-style-type: none"> • Passed
Date: 05/02/2021

PBI 007 Loading Multiple Ballots for Single Election TEST 003
Team Member Responsible: Alex
Inputs: <ul style="list-style-type: none"> • Multiple IR ballot files • Multiple OPL ballot files
Tests: <ul style="list-style-type: none"> • Test single file is read correctly • Test reading two files produces election information from both files • Elections still function with single file • Elections run with multiple files
Outputs: <ul style="list-style-type: none"> • Election information (candidates,number of seats, ballots, etc)
Passed or Failed <ul style="list-style-type: none"> • Passed
Date: 05/02/2021

PBI 009 Validating IR Ballots TEST 004
Team Member Responsible: Peter
Input: An IRBallot instance with an arbitrary set of choices ex. (1,2,3,4)
Tests: <ul style="list-style-type: none"> • Testing the validity of a ballot with 4 choices out of 4 total candidates • Testing the validity of a ballot with 3 choices out of 4 total candidates • Testing the validity of a ballot with 0 choices out of 4 total candidates
Outputs: <ul style="list-style-type: none"> • A boolean representing whether the ballot is deemed valid (true) or invalid (false)
Passed or Failed <ul style="list-style-type: none"> • Passed • Passed • Passed
Date: 05/02/2021