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| **Project Name: Project 1: Voting System Team#5** | |
| **Test Stage: Unit ✔️\_ System \_\_** | **Test Date: 04/01/2020** |
| **Test Case ID#: 001** | **Name(s) of Testers:**  Jian Wang wang8635  Pengyin Chen chen6636  JunRen Huang huan1852  Shuai Hao hao00009 |
| **Test Description:**  **Test Ballot classes constructor and id** |  |
| **Automated: yes\_✔️ no \_\_\_** | **Indicate where are you storing the tests (what file) and the name of the method/functions being used.**  **/Project1/src/vs/BallotTest** |
| **Results: Pass \_✔️ Fail\_\_\_\_\_\_\_\_** |  |
|  |  |
| **Preconditions for Test:**  **None** | |

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| **Step**  **#** | **Test Step**  **Description** | **Test**  **Data** | **Expected**  **Result** | **Actual**  **Result** | **Notes** |
| 1 |  |  |  |  |  |
| 2 | Create a ballot with small number | Ballot(1, mylist) | 1 | 1 |  |
| 3 | create a ballot with medium number | Ballot(100, mylist) | 100 | 100 |  |
| 4 | Create a ballot with large number | Ballot (10000. mylist) | 10000 | 10000 |  |
|  |  |  |  |  |  |

**Post condition(s) for Test:** Couple ballots are created with different number of ID 

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| **Project Name: Project 1: Voting System Team#5** | |
| **Test Stage: Unit ✔️\_ System \_\_** | **Test Date: 04/01/2020** |
| **Test Case ID#: 002** | **Name(s) of Testers:**  Jian Wang wang8635  Pengyin Chen chen6636  JunRen Huang huan1852  Shuai Hao hao00009 |
| **Test Description:**  **Test Ballot classes constructor and voting list** |  |
| **Automated: yes\_✔️ no \_\_\_** | **Indicate where are you storing the tests (what file) and the name of the method/functions being used.**  **/Project1/src/vs/BallotTest** |
| **Results: Pass \_✔️ Fail\_\_\_\_\_\_\_\_** |  |
|  |  |
| **Preconditions for Test:**  **None** | |

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| **Step**  **#** | **Test Step**  **Description** | **Test**  **Data** | **Expected**  **Result** | **Actual**  **Result** | **Notes** |
| 1 |  |  |  |  |  |
| 2 | Create a ballot with small size of vote list | Ballot(1, smalllist) | all value of vote list equals the value we initial | True |  |
| 3 | create a ballot with medium size of list | Ballot(10000, midlist) | all value of vote list equals the value we initial | true |  |
| 4 | Create a ballot with large size of vote list | Ballot (100. largelist) | all value of vote list equals the value we initial | true |  |
|  |  |  |  |  |  |

**Post condition(s) for Test:** Couple ballots are created with different size of vote list 

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| **Project Name: Project 1: Voting System Team#5** | |
| **Test Stage: Unit ✔️\_ System \_\_** | **Test Date: 04/01/2020** |
| **Test Case ID#: 003** | **Name(s) of Testers:**  Jian Wang wang8635  Pengyin Chen chen6636  JunRen Huang huan1852  Shuai Hao hao00009 |
| **Test Description:**  **Test Ballot classes toString method** |  |
| **Automated: yes\_✔️ no \_\_\_** | **Indicate where are you storing the tests (what file) and the name of the method/functions being used.**  **/Project1/src/vs/BallotTest** |
| **Results: Pass \_✔️ Fail\_\_\_\_\_\_\_\_** |  |
|  |  |
| **Preconditions for Test:**  **None** | |

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| **Step**  **#** | **Test Step**  **Description** | **Test**  **Data** | **Expected**  **Result** | **Actual**  **Result** | **Notes** |
| 1 |  |  |  |  |  |
| 2 | Create a ballot with small number | Ballot(1, mylist).toString() | “1 ” | “1 ” |  |
| 3 | create a ballot with medium number | Ballot(10000, mylist).toString() | “10000 ” | “10000 ” |  |
| 4 | Create a ballot with large number | Ballot (100. mylist).toString() | “100 ” | “100 ” |  |
|  |  |  |  |  |  |

**Post condition(s) for Test:** Couple ballots are created with different size of vote list 

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| **Project Name: Project 1: Voting System Team#5** | |
| **Test Stage: Unit ✔️\_ System \_\_** | **Test Date: 04/01/2020** |
| **Test Case ID#: 004** | **Name(s) of Testers:**  Jian Wang wang8635  Pengyin Chen chen6636  JunRen Huang huan1852  Shuai Hao hao00009 |
| **Test Description:**  **Test Candidate classes constructor** |  |
| **Automated: yes\_✔️ no \_\_\_** | **Indicate where are you storing the tests (what file) and the name of the method/functions being used.**  **/Project1/src/vs/CandidateTest** |
| **Results: Pass \_✔️ Fail\_\_\_\_\_\_\_\_** |  |
|  |  |
| **Preconditions for Test:**  **None** | |

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| **Step**  **#** | **Test Step**  **Description** | **Test**  **Data** | **Expected**  **Result** | **Actual**  **Result** | **Notes** |
| 1 |  |  |  |  |  |
| 2 | Create a candidate with name “Tony” | Candidate(“Tony”) | “Tony” | “Tony ” |  |
| 3 | Create a candidate with name “Sue” | Candidate(“Sue”) | “Sue” | “Sue” |  |
| 4 | Create a candidate with name “Scott” | Candidate(“Scott”) | “Scott ” | “Scott ” |  |
|  |  |  |  |  |  |

**Post condition(s) for Test:** Couple candidates are created with different name

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| **Project Name: Project 1: Voting System Team#5** | |
| **Test Stage: Unit ✔️\_ System \_\_** | **Test Date: 04/01/2020** |
| **Test Case ID#: 005** | **Name(s) of Testers:**  Jian Wang wang8635  Pengyin Chen chen6636  JunRen Huang huan1852  Shuai Hao hao00009 |
| **Test Description:**  **Test Candidate classes addBallot()** |  |
| **Automated: yes\_✔️ no \_\_\_** | **Indicate where are you storing the tests (what file) and the name of the method/functions being used.**  **/Project1/src/vs/CandidateTest** |
| **Results: Pass \_✔️ Fail\_\_\_\_\_\_\_\_** |  |
|  |  |
| **Preconditions for Test:**  **A ballot and a candidate is created** | |

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| **Step**  **#** | **Test Step**  **Description** | **Test**  **Data** | **Expected**  **Result** | **Actual**  **Result** | **Notes** |
| 1 |  |  |  |  |  |
| 2 | before add | c1.count\_ballot | 0 | 0 |  |
| 3 | after add | c1.addBallot(ballot1)  c1.count\_ballot | 1 | 1 |  |
|  |  |  |  |  |  |

**Post condition(s) for Test:** a ballot is added to a candidate 

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| **Project Name: Project 1: Voting System Team#5** | |
| **Test Stage: Unit ✔️\_ System \_\_** | **Test Date: 04/01/2020** |
| **Test Case ID#: 006** | **Name(s) of Testers:**  Jian Wang wang8635  Pengyin Chen chen6636  JunRen Huang huan1852  Shuai Hao hao00009 |
| **Test Description:**  **Test Candidate classes compareTo()** |  |
| **Automated: yes\_✔️ no \_\_\_** | **Indicate where are you storing the tests (what file) and the name of the method/functions being used.**  **/Project1/src/vs/CandidateTest** |
| **Results: Pass \_✔️ Fail\_\_\_\_\_\_\_\_** |  |
|  |  |
| **Preconditions for Test:**  **3 candidate are created** | |

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| **Step**  **#** | **Test Step**  **Description** | **Test**  **Data** | **Expected**  **Result** | **Actual**  **Result** | **Notes** |
| 1 |  |  |  |  |  |
| 2 | three candidates are created with 1,2 3 balltos |  |  |  |  |
| 3 | compare 1, 2 | c2.compareTo(c1); | -1 | -1 |  |
| 4 | compare 2, 1 | c1.compareTo(c2); | 1 | 1 |  |
| 5 | compare 2, 3 | c3.compareTo(c2); | -1 | -1 |  |
| 6 | compare 3, 2 | c2.compareTo(c3); | 1 | 1 |  |
|  |  |  |  |  |  |

**Post condition(s) for Test:** we can know which ballots has more balltos 

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| **Project Name: Project 1: Voting System Team#5** | |
| **Test Stage: Unit ✔️\_ System \_\_** | **Test Date: 04/01/2020** |
| **Test Case ID#: 007** | **Name(s) of Testers:**  Jian Wang wang8635  Pengyin Chen chen6636  JunRen Huang huan1852  Shuai Hao hao00009 |
| **Test Description:**  **Test Candidate classes toString()** |  |
| **Automated: yes\_✔️ no \_\_\_** | **Indicate where are you storing the tests (what file) and the name of the method/functions being used.**  **/Project1/src/vs/CandidateTest** |
| **Results: Pass \_✔️ Fail\_\_\_\_\_\_\_\_** |  |
|  |  |
| **Preconditions for Test:**  **3 candidate are created** | |

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| **Step**  **#** | **Test Step**  **Description** | **Test**  **Data** | **Expected**  **Result** | **Actual**  **Result** | **Notes** |
| 1 |  |  |  |  |  |
| 2 | call c1 toString () | c1.toString() | Candidate name is: Tony\n | Candidate name is: Tony\n |  |
| 3 | call c2 toString () | c2.toString() | Candidate name is: Sue\n | Candidate name is: Sue\n |  |
| 4 | call c3 toString() | c3.toString() | Candidate name is: Scott\n | Candidate name is: Scott\n |  |

**Post condition(s) for Test:** None

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| **Project Name: Project 1: Voting System Team#5** | |
| **Test Stage: Unit ✔️\_ System \_\_** | **Test Date: 04/01/2020** |
| **Test Case ID#: 008** | **Name(s) of Testers:**  Jian Wang wang8635  Pengyin Chen chen6636  JunRen Huang huan1852  Shuai Hao hao00009 |
| **Test Description: Test of DroopQuota ReadFile** |  |
| **Automated: yes\_✔️ no \_\_\_** | **Indicate where are you storing the tests (what file) and the name of the method/functions being used.**  **/Project1/src/vs/DroopQuotaTest** |
| **Results: Pass ✔️\_ Fail\_\_** |  |
|  |  |
| **Preconditions for Test:**  **None** | |

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| **Step**  **#** | **Test Step**  **Description** | **Test**  **Data** | **Expected**  **Result** | **Actual**  **Result** | **Notes** |
| 1 |  |  |  |  |  |
| 2 | Create a string with current file path | String current = new java.io.File( "." ).getCanonicalPath(); | \Users\KenJian\Downloads\repo-Team5-devel\Project1 | \Users\KenJian\Downloads\repo-Team5-devel\Project1 |  |
| 3 | Create a string with correct test file path | String testFileLocation = current+"/testing/DQ\_test\_20b\_7c.csv"; | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\DQ\_test\_20b\_7c.csv | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\DQ\_test\_20b\_7c.csv |  |
| 4 | Create DroopQuota with the 1 and testFileLocation | DroopQuota myTest = new DroopQuota(1, testFileLocation); |  |  |  |
|  | compare candidate number before actual read file | assertEquals(myTest.candidateCount, 0); | 0 | 0 |  |
| 5 | compare ballot number before actual read file | assertEquals(myTest.ballotCount, 0); | 0 | 0 |  |
| 6 | Read file | myTest.ReadFile(); |  |  |  |
| 7 | compare candidate number after actual read file | assertEquals(myTest.candidateCount, 7); | 7 | 7 |  |
| 8 | compare ballot number after actual read file | assertEquals(myTest.ballotCount, 20); | 20 | 20 |  |

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| **Project Name: Project 1: Voting System Team#5** | |
| **Test Stage: Unit ✔️\_ System \_\_** | **Test Date: 04/01/2020** |
| **Test Case ID#: 009** | **Name(s) of Testers:**  Jian Wang wang8635  Pengyin Chen chen6636  JunRen Huang huan1852  Shuai Hao hao00009 |
| **Test Description: Test of DroopQuotaGenerateAudit** |  |
| **Automated: yes\_✔️ no \_\_\_** | **Indicate where are you storing the tests (what file) and the name of the method/functions being used.**  **/Project1/src/vs/DroopQuotaTest** |
| **Results: Pass ✔️\_ Fail\_\_** |  |
|  |  |
| **Preconditions for Test:**  **None** | |

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| **Step**  **#** | **Test Step**  **Description** | **Test**  **Data** | **Expected**  **Result** | **Actual**  **Result** | **Notes** |
| 1 |  |  |  |  |  |
| 2 | Create a string with current file path | String current = new java.io.File( "." ).getCanonicalPath(); | \Users\KenJian\Downloads\repo-Team5-devel\Project1 | \Users\KenJian\Downloads\repo-Team5-devel\Project1 |  |
| 3 | Create a string with correct test file path | String testFileLocation = current+"/testing/DQ\_test\_20b\_6c.csv"; | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\DQ\_test\_20b\_6c.csv | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\DQ\_test\_20b\_6c.csv |  |
| 4 | Create DroopQuota with the 1 and testFileLocation | DroopQuota myTest = new DroopQuota(1, testFileLocation); |  |  |  |
| 5 | Compare before read file | assertEquals(myTest.winner.size(), 0); | 0 | 0 |  |
|  | Set shuffle\_flag = 0 | myTest.shuffle\_flag =0; |  |  |  |
| 6 | Read file | myTest.ReadFile(); |  |  |  |
| 7 | Generate Audit file | myTest.GenerateAudit(); |  |  |  |
| 8 | compare size of winner list after actual read file | assertEquals(myTest.winner.size(), 1); | 1 | 1 |  |
|  |  |  |  |  |  |
| 9 | Create DroopQuota with the 2 and testFileLocation | DroopQuota myTest2 = new DroopQuota(2, testFileLocation); |  |  |  |
| 10 | compare before read file | assertEquals(myTest2.winner.size(), 0); | 0 | 0 |  |
|  | Set shuffle\_flag = 0 | myTest2.shuffle\_flag =0; |  |  |  |
| 11 | Read file | myTest2.ReadFile(); |  |  |  |
| 12 | Generate Audit file | myTest2.GenerateAudit(); |  |  |  |
| 13 | compare size of winner list after actual read file | assertEquals(myTest2.winner.size(), 2); | 2 | 2 |  |
|  |  |  |  |  |  |
| 14 | Create DroopQuota with the 3 and testFileLocation | DroopQuota myTest3 = new DroopQuota(3, testFileLocation); |  |  |  |
| 15 | compare before read file | assertEquals(myTest3.winner.size(), 1); | 0 | 0 |  |
|  | Set shuffle\_flag = 0 | myTest3.shuffle\_flag =0; |  |  |  |
| 16 | Read file | myTest3.ReadFile(); |  |  |  |
| 17 | Generate Audit file | myTest3.GenerateAudit(); |  |  |  |
| 18 | compare size of winner list after actual read file | assertEquals(myTest3.winner.size(), 3); | 3 | 3 |  |
|  |  |  |  |  |  |
| 19 | Create DroopQuota with the 4 and testFileLocation | DroopQuota myTest4 = new DroopQuota(4, testFileLocation); |  |  |  |
| 20 | compare before read file | assertEquals(myTest4.winner.size(), 0); | 0 | 0 |  |
| 21 | Read file | myTest4.ReadFile(); |  |  |  |
| 22 | Generate Audit file | myTest4.GenerateAudit(); |  |  |  |
| 23 | compare size of winner list after actual read file | assertEquals(myTest4.winner.size(), 3); | 3 | 3 | Due to test file’s uncertainty, some ballots may not have enough vote list, so it may not be able to assign anyone, the ballot pool is reduced and some candidates cannot get enough vote to reach the droop number |
| 24 | Create DroopQuota with the 5 and testFileLocation | DroopQuota myTest5 = new DroopQuota(5, testFileLocation); |  |  |  |
| 25 | compare before read file | assertEquals(myTest5.winner.size(), 0); | 0 | 0 |  |
| 26 | Read file | myTest4.ReadFile(); |  |  |  |
| 26 | Generate Audit file | myTest4.GenerateAudit(); |  |  |  |
| 27 | compare size of winner list after actual read file | assertEquals(myTest4.winner.size(), 4); | 4 | 4 | Due to test file’s uncertainty, some ballots may not have enough vote list, so it may not be able to assign anyone, the ballot pool is reduced and some candidates cannot get enough vote to reach the droop number |
|  |  |  |  |  |  |
| 28 | Create a string with current file path | String current = new java.io.File( "." ).getCanonicalPath(); | \Users\KenJian\Downloads\repo-Team5-devel\Project1 | \Users\KenJian\Downloads\repo-Team5-devel\Project1 |  |
| 29 | Create a string with correct test file path | String testFileLocation = current+"/testing/DQ\_test\_20b\_7c.csv"; | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\DQ\_test\_20b\_7c.csv | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\DQ\_test\_20b\_7c.csv |  |
| 30 | Create DroopQuota with the 1 and testFileLocation | DroopQuota myTest = new DroopQuota(1, testFileLocation); |  |  |  |
| 31 | Compare before read file | assertEquals(myTest.winner.size(), 0); | 0 | 0 |  |
| 32 | Set shuffle\_flag = 0 | myTest.shuffle\_flag =0; |  |  |  |
| 33 | Read file | myTest.ReadFile(); |  |  |  |
| 34 | Generate Audit file | myTest.GenerateAudit(); |  |  |  |
| 35 | compare size of winner list after actual read file | assertEquals(myTest.winner.size(), 1); | 1 | 1 |  |
| 36 |  |  |  |  |  |
| 37 | Create DroopQuota with the 2 and testFileLocation | DroopQuota myTest2 = new DroopQuota(2, testFileLocation); |  |  |  |
| 38 | compare before read file | assertEquals(myTest2.winner.size(), 0); | 0 | 0 |  |
| 39 | Set shuffle\_flag = 0 | myTest2.shuffle\_flag =0; |  |  |  |
| 40 | Read file | myTest2.ReadFile(); |  |  |  |
| 41 | Generate Audit file | myTest2.GenerateAudit(); |  |  |  |
| 42 | compare size of winner list after actual read file | assertEquals(myTest2.winner.size(), 2); | 2 | 2 |  |
|  |  |  |  |  |  |
| 43 | Create DroopQuota with the 3 and testFileLocation | DroopQuota myTest3 = new DroopQuota(3, testFileLocation); |  |  |  |
| 44 | compare before read file | assertEquals(myTest3.winner.size(), 1); | 0 | 0 |  |
| 45 | Set shuffle\_flag = 0 | myTest3.shuffle\_flag =0; |  |  |  |
| 46 | Read file | myTest3.ReadFile(); |  |  |  |
| 47 | Generate Audit file | myTest3.GenerateAudit(); |  |  |  |
| 48 | compare size of winner list after actual read file | assertEquals(myTest3.winner.size(), 3); | 3 | 3 |  |
| 49 |  |  |  |  |  |
| 50 | Create DroopQuota with the 4 and testFileLocation | DroopQuota myTest4 = new DroopQuota(4, testFileLocation); |  |  |  |
| 51 | compare before read file | assertEquals(myTest4.winner.size(), 0); | 0 | 0 |  |
| 52 | Read file | myTest4.ReadFile(); |  |  |  |
| 53 | Generate Audit file | myTest4.GenerateAudit(); |  |  |  |
| 54 | compare size of winner list after actual read file | assertEquals(myTest4.winner.size(), 3); | 3 | 3 | Due to test file’s uncertainty, some ballots may not have enough vote list, so it may not be able to assign anyone, the ballot pool is reduced and some candidates cannot get enough vote to reach the droop number |
| 55 | Create DroopQuota with the 5 and testFileLocation | DroopQuota myTest5 = new DroopQuota(5, testFileLocation); |  |  |  |
| 56 | compare before read file | assertEquals(myTest5.winner.size(), 0); | 0 | 0 |  |
| 57 | Read file | myTest4.ReadFile(); |  |  |  |
| 58 | Generate Audit file | myTest4.GenerateAudit(); |  |  |  |
| 59 | compare size of winner list after actual read file | assertEquals(myTest4.winner.size(), 4); | 4 | 4 | Due to test file’s uncertainty, some ballots may not have enough vote list, so it may not be able to assign anyone, the ballot pool is reduced and some candidates cannot get enough vote to reach the droop number |

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| **Preconditions for Test:**  **None** | |

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| **Project Name: Project 1: Voting System Team#5** | |
| **Test Stage: Unit ✔️\_ System \_\_** | **Test Date: 04/01/2020** |
| **Test Case ID#: 010** | **Name(s) of Testers:**  Jian Wang wang8635  Pengyin Chen chen6636  JunRen Huang huan1852  Shuai Hao hao00009 |
| **Test Description: Test of PluralitySeat** |  |
| **Automated: yes\_✔️ no \_\_\_** | **Indicate where are you storing the tests (what file) and the name of the method/functions being used.**  **/Project1/src/vs//PluralityTest** |
| **Results: Pass ✔️\_ Fail\_\_** |  |
|  |  |
| **Preconditions for Test:**  **None** | |

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| **Step**  **#** | **Test Step**  **Description** | **Test**  **Data** | **Expected**  **Result** | **Actual**  **Result** | **Notes** |
| 1 |  |  |  |  |  |
| 2 | Create a string with current file path | String current = new java.io.File( "." ).getCanonicalPath(); | \Users\KenJian\Downloads\repo-Team5-devel\Project1 | \Users\KenJian\Downloads\repo-Team5-devel\Project1 |  |
| 3 | Create a string with correct test file path | String testFileLocation = current+"/testing/plurality\_test\_500b\_4c.csv"; | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\plurality\_test\_500b\_4c.csv | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\plurality\_test\_500b\_4c.csv |  |
| 4 | Create Plurality with the 1 and testFileLocation | Plurality myTest = new Plurality(1, testFileLocation); |  |  |  |
|  | compare seat number | assertEquals(myTest.total\_seat, 1); | 1 | 1 |  |
| 5 | Create Plurality with the 4 and testFileLocation | Plurality myTest2 = new Plurality(4, testFileLocation); |  |  |  |
| 6 | compare seat number | assertEquals(myTest.total\_seat, 4); | 4 | 4 |  |
| 7 | Create Plurality with the 100 and testFileLocation | Plurality myTes3t = new Plurality(100, testFileLocation); |  |  |  |
| 8 | compare seat number | assertEquals(myTest3.total\_seat, 1); | 100 | 100 |  |
|  | Create Plurality with the 1000 and testFileLocation | Plurality myTest4 = new Plurality(1000, testFileLocation); |  |  |  |
|  | compare seat number | assertEquals(myTest4.total\_seat, 1); | 1000 | 1000 |  |

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| **Project Name: Project 1: Voting System Team#5** | |
| **Test Stage: Unit ✔️\_ System \_\_** | **Test Date: 04/01/2020** |
| **Test Case ID#: 011** | **Name(s) of Testers:**  Jian Wang wang8635  Pengyin Chen chen6636  JunRen Huang huan1852  Shuai Hao hao00009 |
| **Test Description: Test of PluralityReadFile** |  |
| **Automated: yes\_✔️ no \_\_\_** | **Indicate where are you storing the tests (what file) and the name of the method/functions being used.**  **/Project1/src/vs/PluralityTest** |
| **Results: Pass ✔️\_ Fail\_\_** |  |
|  |  |
| **Preconditions for Test:**  **None** | |

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| **Step**  **#** | **Test Step**  **Description** | **Test**  **Data** | **Expected**  **Result** | **Actual**  **Result** | **Notes** |
| 1 |  |  |  |  |  |
| 2 | Create a string with current file path | String current = new java.io.File( "." ).getCanonicalPath(); | \Users\KenJian\Downloads\repo-Team5-devel\Project1 | \Users\KenJian\Downloads\repo-Team5-devel\Project1 |  |
| 3 | Create a string with correct test file path | String testFileLocation = current+"/testing/plurality\_test\_5000b\_4c.csv"; | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\plurality\_test\_5000b\_4c.csv | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\plurality\_test\_5000b\_4c.csv |  |
| 4 | Create Plurality with the 1 and testFileLocation | Plurality myTest = new Plurality(1, testFileLocation); |  |  |  |
| 5 | compare candidate number before actual read file | assertEquals(myTest.candidateCount, 0); | 0 | 0 |  |
| 6 | compare ballot number before actual read file | assertEquals(myTest.ballotCount, 0); | 0 | 0 |  |
| 7 | Read file | myTest.ReadFile(); |  |  |  |
| 8 | compare candidate number after actual read file | assertEquals(myTest.candidateCount, 4); | 4 | 4 |  |
| 9 | compare ballot number after actual read file | assertEquals(myTest.ballotCount, 20); | 5000 | 5000 |  |
| 10 | Create a string with current file path | String current1 = new java.io.File( "." ).getCanonicalPath(); | \Users\KenJian\Downloads\repo-Team5-devel\Project1 | \Users\KenJian\Downloads\repo-Team5-devel\Project1 |  |
| 11 | Create a string with correct test file path | String testFileLocation1 = current1+"/testing/plurality\_test\_5000b\_4c.csv"; | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\plurality\_test\_5000b\_4c.csv | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\plurality\_test\_5000b\_4c.csv |  |
|  | Create Plurality with the 1 and testFileLocation | Plurality myTest2 = new Plurality(4, testFileLocation1); |  |  |  |
|  | Read file | myTes2t.ReadFile(); |  |  |  |
|  | compare candidate number after actual read file | assertEquals(myTest.candidateCount, 4); | 7 | 7 |  |
|  | compare ballot number after actual read file | assertEquals(myTest.ballotCount, 20); | 100 | 100 |  |

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| **Preconditions for Test:**  **None** | |

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| **Project Name: Project 1: Voting System Team#5** | |
| **Test Stage: Unit ✔️\_ System \_\_** | **Test Date: 04/01/2020** |
| **Test Case ID#: 012** | **Name(s) of Testers:**  Jian Wang wang8635  Pengyin Chen chen6636  JunRen Huang huan1852  Shuai Hao hao00009 |
| **Test Description: Test of PluralityGenerateAudit** |  |
| **Automated: yes\_✔️ no \_\_\_** | **Indicate where are you storing the tests (what file) and the name of the method/functions being used.**  **/Project1/src/vs/PluralityTest** |
| **Results: Pass ✔️\_ Fail\_\_** |  |
|  |  |
| **Preconditions for Test:**  **None** | |

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| --- | --- | --- | --- | --- | --- |
| **Step**  **#** | **Test Step**  **Description** | **Test**  **Data** | **Expected**  **Result** | **Actual**  **Result** | **Notes** |
| 1 |  |  |  |  |  |
| 2 | Create a string with current file path | String current = new java.io.File( "." ).getCanonicalPath(); | \Users\KenJian\Downloads\repo-Team5-devel\Project1 | \Users\KenJian\Downloads\repo-Team5-devel\Project1 |  |
| 3 | Create a string with correct test file path | String testFileLocation = current+"/testing/plurality\_test\_5000b\_4c.csv"; | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\plurality\_test\_5000b\_4c.csv | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\plurality\_test\_5000b\_4c.csv |  |
| 4 | Create Plurality with the 4 and testFileLocation | Plurality myTest = new Plurality(4, testFileLocation); |  |  |  |
| 5 | Compare before read file | assertEquals(myTest.winner.size(), 0); | 0 | 0 |  |
| 6 | Read file | myTest.ReadFile(); |  |  |  |
| 7 | Generate Audit file | myTest.GenerateAudit(); |  |  |  |
| 8 | compare size of winner list after actual read file | assertEquals(myTest.winner.size(), 4); | 4 | 4 |  |
| 9 | Create Plurality with the 4 and testFileLocation | Plurality myTest2 = new Plurality (0, testFileLocation); |  |  |  |
| 10 | compare before read file | assertEquals(myTest2.winner.size(), 0); | 0 | 0 |  |
| 11 | Read file | myTest.ReadFile(); |  |  |  |
| 12 | Generate Audit file | myTest.GenerateAudit(); |  |  |  |
| 13 | compare size of winner list after actual read file | assertEquals(myTest2.winner.size(), 0); | 0 | 0 |  |
| 14 | Create Plurality with the 4 and testFileLocation | Plurality myTest3 = new Plurality (4, testFileLocation); |  |  |  |
| 15 | compare before read file | assertEquals(myTest3.winner.size(), 1); | 0 | 0 |  |
| 16 | Read file | myTest.ReadFile(); |  |  |  |
| 17 | Generate Audit file | myTest.GenerateAudit(); |  |  |  |
| 18 | compare size of winner list after actual read file | assertEquals(myTest3.winner.size(), 0); | 1 | 0 |  |
| 19 | Create Plurality with the 4 and testFileLocation | Plurality myTest4 = new Plurality (1000, testFileLocation); |  |  |  |
| 20 | compare before read file | assertEquals(myTest4.winner.size(), 1); | 0 | 0 |  |
| 21 | Read file | myTest.ReadFile(); |  |  |  |
| 22 | Generate Audit file | myTest.GenerateAudit(); |  |  |  |
| 23 | compare size of winner list after actual read file | assertEquals(myTest4.winner.size(), 0); | 4 | 4 |  |

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| **Preconditions for Test:**  **None** | |

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| **Project Name: Project 1: Voting System Team#5** | |
| **Test Stage: Unit ✔️\_ System \_\_** | **Test Date: 04/01/2020** |
| **Test Case ID#: 013** | **Name(s) of Testers:**  Jian Wang wang8635  Pengyin Chen chen6636  JunRen Huang huan1852  Shuai Hao hao00009 |
| **Test Description: Test of VotingTypeReadFile** |  |
| **Automated: yes\_✔️ no \_\_\_** | **Indicate where are you storing the tests (what file) and the name of the method/functions being used.**  **/Project1/src/vsVotingTypeTest** |
| **Results: Pass ✔️\_ Fail\_\_** |  |
|  |  |
| **Preconditions for Test:**  **None** | |

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| **Step**  **#** | **Test Step**  **Description** | **Test**  **Data** | **Expected**  **Result** | **Actual**  **Result** | **Notes** |
| 1 |  |  |  |  |  |
| 2 | Create a string with current file path | String current = new java.io.File( "." ).getCanonicalPath(); | \Users\KenJian\Downloads\repo-Team5-devel\Project1 | \Users\KenJian\Downloads\repo-Team5-devel\Project1 |  |
| 3 | Create a string with correct test file path | String testFileLocation = current+"/testing/DQ\_test\_20b\_6c.csv"; | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\plurality\_test\_20b\_6c.csv | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\plurality\_test\_20b\_6c.csv |  |
| 4 | Create Plurality with the 1 and testFileLocation | VotingType myTest = new Plurality(1, testFileLocation); |  |  |  |
| 5 | compare candidate number before actual read file | assertEquals(myTest.candidateCount, 0); | 0 | 0 |  |
| 6 | compare ballot number before actual read file | assertEquals(myTest.ballotCount, 0); | 0 | 0 |  |
| 7 | Read file | myTest.ReadFile(); |  |  |  |
| 8 | compare candidate number after actual read file | assertEquals(myTest.candidateCount, 6); | 6 | 6 |  |
| 9 | compare ballot number after actual read file | assertEquals(myTest.ballotCount, 20); | 20 | 20 |  |
| 10 | Create a string with current file path | String current1 = new java.io.File( "." ).getCanonicalPath(); | \Users\KenJian\Downloads\repo-Team5-devel\Project1 | \Users\KenJian\Downloads\repo-Team5-devel\Project1 |  |
| 11 | Create a string with correct test file path | String testFileLocation1 = current1+"/testingDQ\_test\_20b\_7c.csv"; | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\plurality\_test\_20b\_7c.csv | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\plurality\_test\_20b\_7c.csv |  |
| 12 | Create Plurality with the 1 and testFileLocation | Plurality myTest2 = new Plurality(4, testFileLocation1); |  |  |  |
| 13 | Read file | myTes2t.ReadFile(); |  |  |  |
| 14 | compare candidate number after actual read file | assertEquals(myTest.candidateCount, 7); | 7 | 7 |  |
| 15 | compare ballot number after actual read file | assertEquals(myTest.ballotCount, 20); | 10 | 20 |  |
| 16 | Create a string with current file path | String current = new java.io.File( "." ).getCanonicalPath(); | \Users\KenJian\Downloads\repo-Team5-devel\Project1 | \Users\KenJian\Downloads\repo-Team5-devel\Project1 |  |
| 17 | Create a string with correct test file path | String testFileLocation = current+"/testing/DQ\_test\_20b\_6c.csv"; | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\DQ\_test\_20b\_6c.csv | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\DQ\_test\_20b\_6c.csv |  |
| 18 | Create Plurality with the 1 and testFileLocation | VotingType myTest = new Plurality(1, testFileLocation); |  |  |  |
| 19 | compare candidate number before actual read file | assertEquals(myTest.candidateCount, 0); | 0 | 0 |  |
| 20 | compare ballot number before actual read file | assertEquals(myTest.ballotCount, 0); | 0 | 0 |  |
| 21 | Read file | myTest.ReadFile(); |  |  |  |
| 22 | compare candidate number after actual read file | assertEquals(myTest.candidateCount, 6); | 6 | 6 |  |
| 23 | compare ballot number after actual read file | assertEquals(myTest.ballotCount, 20); | 20 | 20 |  |
| 24 | Create a string with current file path | String current1 = new java.io.File( "." ).getCanonicalPath(); | \Users\KenJian\Downloads\repo-Team5-devel\Project1 | \Users\KenJian\Downloads\repo-Team5-devel\Project1 |  |
| 25 | Create a string with correct test file path | String testFileLocation1 = current1+"/testing/DQt\_20b\_7c.csv"; | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\plurality\_test\_20b\_7c.csv | \Users\KenJian\Downloads\repo-Team5-devel\Project1\testing\plurality\_test\_20b\_7c.csv |  |
| 26 | Create Plurality with the 1 and testFileLocation | Plurality myTest2 = new Plurality(4, testFileLocation1); |  |  |  |
| 27 | Read file | myTes2t.ReadFile(); |  |  |  |
| 28 | compare candidate number after actual read file | assertEquals(myTest.candidateCount,7); | 7 | 7 |  |
| 29 | compare ballot number after actual read file | assertEquals(myTest.ballotCount, 20); | 20 | 20 |  |

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| **Preconditions for Test:**  **None** | |

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| **Project Name: Project 1: Voting System Team#5** | |
| **Test Stage: Unit \_ System \_✔️\_** | **Test Date: 04/01/2020** |
| **Test Case ID#: 014** | **Name(s) of Testers:**  Jian Wang wang8635  Pengyin Chen chen6636  JunRen Huang huan1852  Shuai Hao hao00009 |
| **Test Description:**Test whole system |  |
| **Automated: yes\_ no \_✔️\_\_** | **Indicate where are you storing the tests (what file) and the name of the method/functions being used.** |
| **Results: Pass \_✔️ Fail\_\_\_\_\_\_\_\_** |  |
|  |  |
| **Preconditions for Test:**  **None** | |

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| **Step**  **#** | **Test Step**  **Description** | **Test**  **Data** | **Expected**  **Result** | **Actual**  **Result** | **Notes** |
| 1 |  |  |  |  |  |
| 2 | Run MyGui in Eclipse |  |  |  |  |
| 3 | input wrong file name | “adsa.cvs” | error check | error check |  |
| 4 | run GenerateAudit button without seats and file name | null | error check | error check |  |
| 5 | run GenerateAudit button with proper filename and seats but does not import first | file name and seats | error check | error check |  |
| 6 | run plurality test file and 1 seats, import and GenerateAudit | Plurality test file and 1 seat | read file finished  proper detail displayed | read file finished  proper detail displayed |  |
| 7 | run plurality test file and 2 seats, import and GenerateAudit | Plurality test file and 2 seat | read file finished  proper detail displayed | read file finished  proper detail displayed |  |
| 8 | run Plurality test file and 3 seats, import and GenerateAudit | Plurality test file and 3 seats | read file finished  proper detail displayed | read file finished  proper detail displayed |  |
| 9 | run Plurality test file and 4 seats, import and GenerateAudit | Plurality test file and 4 seats | read file finished  candidates equal to seats warning  proper detail displayed | read file finished  candidates equal to seats warning  proper detail displayed |  |
| 10 | run Plurality test file and 0 seats, import and GenerateAudit | Plurality test file and 0 seats | error check | error check |  |
| 11 | run DQ-1test file and 0 seats, import and GenerateAudit | DQ-1test file and 0 seats | error check | error check | al DQ tests, shuffle option is off |
| 12 | run DQ-1test file and 1 seats, import and GenerateAudit | DQ-1test file and 1 seats | read file finished  proper detail displayed | ead file finished  proper detail displayed |  |
| 13 | run DQ-1test file and 2 seats, import and GenerateAudit | DQ-1test file and 2 seats | read file finished  proper detail displayed | read file finished  proper detail displayed |  |
| 14 | run DQ-1test file and 3 seats, import and GenerateAudit | DQ-1test file and 3 seats | read file finished  proper detail displayed | read file finished  proper detail displayed |  |
| 15 | run DQ-1test file and 4 seats, import and GenerateAudit | DQ-1test file and 4 seats | read file finished  proper detail displayed | read file finished  proper detail displayed | due to the testfile, there will be only 3 winners |
| 16 | run DQ-1test file and 5 seats, import and GenerateAudit | DQ-1test file and 5 seats | read file finished  proper detail displayed | read file finished  proper detail displayed | due to the test file , there will be only 4 winners |
| 17 | run DQ-1test file and 6 seats, import and GenerateAudit | DQ-1test file and 6 seats | read file finished  seats number warning  proper detail displayed | read file finished  seats number warning  proper detail displayed |  |
| 18 | run DQ-2test file and 0 seats, import and GenerateAudit | DQ-2test file and 0 seats | error check | error check | al DQ tests, shuffle option is off |
| 19 | run DQ-2test file and 1 seats, import and GenerateAudit | DQ-2test file and 1 seats | read file finished  proper detail displayed | ead file finished  proper detail displayed |  |
| 20 | run DQ-2test file and 2 seats, import and GenerateAudit | DQ-2test file and 2 seats | read file finished  proper detail displayed | read file finished  proper detail displayed |  |
| 21 | run DQ-2test file and 3 seats, import and GenerateAudit | DQ-2test file and 3 seats | read file finished  proper detail displayed | read file finished  proper detail displayed |  |
| 22 | run DQ-2test file and 4 seats, import and GenerateAudit | DQ-2test file and 4 seats | read file finished  proper detail displayed | read file finished  proper detail displayed | due to the testfile, there will be only 3 winners |
| 23 | run DQ-2test file and 5 seats, import and GenerateAudit | DQ-2test file and 5 seats | read file finished  proper detail displayed | read file finished  proper detail displayed | due to the test file , there will be only 4 winners |
| 24 | run DQ-2test file and 6 seats, import and GenerateAudit | DQ-2test file and 6 seats | read file finished  proper detail displayed | read file finished  proper detail displayed |  |
| 25 | run DQ-2test file and 7 seats, import and GenerateAudit | DQ-2test file and 7 seats | read file finished  seats number warning  proper detail displayed | read file finished  seats number warning  proper detail displayed |  |
| 26 | run plurality test file and 2 seats, import and GenerateAudit with random |  | random result | random result |  |
| 27 | un DQ-1test file and 3 seats, import and GenerateAudit with shuffle option on |  | random result | random result |  |
|  |  |  |  |  |  |

**Post condition(s) for Test:** detail displayed, audit file generated. 

**Project Name:**  The project #, name of your system, and the team#

**Test Stage:** Indicate whether it is a unit test or a system test.

**Test Date:**  The date the test was performed.

**Test Case ID#:**  A unique ID is required. Decide on a naming convention and use numbering. Example: Ballot\_Shuffle\_1

**Name(s) of Testers:** List the names of anyone involved in running this test case.

**Test Description:**  Describe briefly the test objective.

**Automated:**  Indicate if the test is completely automated or being checked manually. (If you have methods running the tests and checking results, select “yes”. If you are manually checking results, indicate manual by selecting the “no.”)

**Results:** Indicate if the test passed or failed.

**Step #:** You will be listing the test steps in order. This number is the step number in the process.

**Test Step Description:** Details of the test step.

**Test Data:** What the test data will be for this step. Be clear on what the input data will be. If using a specific file, be clear on the name.

**Expected Result:** What result are you expecting from the program component or system.

**Actual Result:** What result were returned based on the test.

**Post condition for Test:** What will be true after the test has been run? Has the state of the system changed in any way?

**Notes:** Comments and notesfor you and your team members.