Team 10 ~ True Administrators
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Sprint Backlogs

1:
Committed backlog item:

> *As the product owner, I want both Plurality and Droop algorithms to be fully implemented and working correctly so that I can run the results of the election through either algorithm.*

Acceptance Criteria:

- Prompt user input: 1 for Plurality, or 2 for Droop
- Validate that user input is an integer, and is either 1 or 2. Any other input will exit the program.
- Inform user of choice and generate either a new Plurality or STV class based on their choice
- Generate success/failure message if the classes cannot be generated/initialized
- Generate error message if error occurs during execution
- Generate error message if the report can not be created or exported.
- Both algorithms fully implemented and working properly

Effort: Medium

Not started：

1. Fix the issue that when candidate's vote counts are same, plurality algorithm's way of choosing winner is actually not random. Time estimated: 2hr.
2. Test for all functionalities of both algorithms and user's ability to choose algorithms. Time estimated: 1 hr
3. Refactor the program, cancel unneeded functions and information. Time estimated: 1.5 hr

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2:
Committed backlog item:

> *As a developer, I want to be able to toggle the shuffling of ballots to be on or off so that I can test the functionality of the system and so that users aren't prompted for shuffling.*

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Acceptance Criteria:

- Ballots are randomly shuffled by default
- The developer can turn on/off the shuffle option through an argument in command line
- The election officials don't need to decide whether the ballots need to be shuffled

Effort: Small

Not started:

1. Make shuffle the default option for both algorithms. Time estimated: 0.5hr
2. Add one optional argument when user run the program through command line. Time estimated: 0.5hr
3. Add a flag in the program to decide if the shuffle option should be turned off based on if that additional argument got passed in. Time estimated: 1 hr
4. Test if the shuffle really be turned off. Time estimated: 1hr

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3:

Committed backlog item:

> *As a user, I want all election information (seats, ballots, candidates, algorithm) stored in the CSV file so that I don't have to input it manually.*

Acceptance Criteria:

- The only (potential, see other PBI on file reading) input should be the file name
- Program is able to read election criteria from CSV file
- Program ensures that all information exists and is valid
    - If not, program informs user and prompts them for missing input
- Program store all input into classes and variables successfully

Effort: Small/Medium

Not started:

1. Change the way the current csv file is formatted. Time estimated: 1 hr
2. Change the way the program read in and parse the contents in the csv file. Time estimated: 2 hr
3. Add error checkings for the contents read in from the csv file. Time estimated: 1 hr
4. Test that this change won't affect the performance of the algorithms. Time estimated: 1 hr

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4:
Committed backlog item:

> *As a user, I want to either supply a filename as a command line argument or be prompted for the filename if nothing is supplied so that I have two ways to input the file.*

Acceptance Criteria:
- User can run the program with an additional argument which is the name of the CSV file
- Validate if the file is existed and opened successfully
- Prompt the user to input filename if no argument supplied, or filename supplied is invalid
- Generate success message when the file is opened successfully
- Read file contents successfully, or generate error message if an error occurs

Effort: Small

Task:
1. Add one optional argument when user run the program through command line. Time estimated: 0.5hr
2. Change the program structure to enable both way of passing in file name. Time estimated: 1hr
3. Test if both way of passing in file name works correctly. Time estimated: 1hr

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5:
Committed backlog item:

> *As an election official, I want ballots to be discarded if less than half of the candidates are ranked when using droop so that we can ensure the validity of the ballots.*

Acceptance Criteria:
- Only run these checks when using Droop Quota, and not Plurality
- Check how many candidates are ranked for each ballot when processing the ballot information
- Discard the ballot if the number of ranking is less than half of the number of candidates

Effort: Medium

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Task:

1. Check if the ballot has over half of the candidates ranked when read in the ballot, and discard those invalided ballots, don't add them to the ballot array. Time estimated: 2 hr
2. Change the code structure to make the choose of algorithm being decided before the ballots are read in. Time estimated: 1hr
3. Test if the final ballot array that used to generate election result don't contain any invalid ballots. Time estimated: 1 hr
4. Test functionality after discarding invalided ballots. Time estimated: 2 hr

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6:

Committed backlog item:

> As an election official, I want to have an additional short report containing selection date, type of election, candidates, number of seats, the winners of the election, so that I can give it to the election certification officials.

Acceptance Criteria:

- The program created a text file and output the needed information to it
- The file name should be different from the name of the longer report
- Generate failure message if the file can not be created or opened
- Generate error message when error occurs during creating the report

Effort: Small/Medium

Task:

1. Implement an additional function to generate this short report, it should be within the Algorithm class. Time estimated: 2 hr
2. Add functions to get the information this report needed. Time estimated: 1 hr
3. Test if the report can be successfully exported and the contents are correct. Time estimated: 1hr