



CST 283

Programming Assignment 9

Winter 2024
Instructor: T. Klingler

Objective

This program will provide an opportunity to solve a problem using linked lists.

Overview & Instructions

Build classes to manage an election system. First create a class to manage one vote:

Vote
- voterID : int - theVote : boolean or int
+ Vote() + Vote(boolean) + { set and get methods } + toString() : String

Next, create an election "manager" class that includes a generic linked list of **Vote** objects:

Election
- voteList : LinkedList<Votes>
+ Election() + Election(String filename) + addVotes(String filename) : void + removeVotes(String filename) : void + removeDuplicates() : void + didVotePass() : Sgtring + toString() : String

Build a driver program to manage the overall election. You will need to manage three files:

- **mainvotes.txt** Initial set of votes from precincts Example data line: 123456 1
(Voter ID number, 1=yes and 0=no)
- **badvotes.txt** List of voter IDs that are determined to be invalid and must be removed from list Example data line: 654321
- **absentee.txt** List of absentee votes to add to list Example data line: 246803 0

All three files can be downloaded with [this link](#).

Utilize the provided [LinkedList](#) class build within class presentation materials.

Note that you will need to augment the linked list built in class for the `removeDuplicates()` method. Be sure to maintain the generic design for the class as you remove any notes that have a key value (voter ID) that matches one more others so that any one voter has no more than one vote.

Your driver application should be very high level and abstract. It should be something like this:

```
// Primary program tasks
Election policy101 = new Election("mainvotes.txt");
policy101.addVotes("absentee.txt");
policy101.removeVotes("badvotes.txt");
policy101.removeDuplicates();

// Integrate the following action into an output message
String outcome = policy101.didVotePass();
```

Your ultimate output is a simple report to include:

- The counts for votes for and against the initiative
- A statement whether or not the vote passed or not

The output can be a simple dialog box or statement to the output console.

No error checking is required for the program. Assume the data were validated prior to this processing.

Deliverables

Demonstrate the development steps of your program with at least two version commits to the assignment Git repository.

Deliver the following to the eLearning system **Assignment Dropbox** as your final product:

- **Upload** your **source code** (.java) file(s); preferably as one zipped submission
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