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| Sheridan College Institute of Technology and Advanced Learning |
| Assignment 4 Proposal |
| Winter 2019 - PROG23672 Data Structures and Algorithms |

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1. The problem to be addressed will be online bank account storage. This particular bank will have a website that clients will be able to log into for mobility and convenience. Each client will have their own account.
2. The domain data will be individual accounts containing 4 pieces of information:

* Username
* Password
* Client name
* Balance

The password will be accessible privately to the account to prevent unwanted external retrieval. A setter will be implemented to change the password, requiring the old one as a precaution.

1. The data structure used to store these accounts will be modeled after linked lists. This will allow the number of accounts to dynamically change as clients may want to register or delete their accounts.
2. The operations used for the ADT storing the accounts will be the following:

* Add: adds a new account to the data structure
* Find: finds and returns an account from the data structure. Returns null otherwise. Username will be used as a comparator as it will be unique to each account.
* Delete: using username as a key, it will remove that account from the data structure.
* Save: this operation will save all account information to a file
* Sort: this operation will sort the accounts in alphabetical order of username.