

Description:

This is a small local database with access control. Any persisted data will reside readlist.dat by default which will be generated if it does not exist. And user data will reside users.dat by default which will be generated if it does not exist. There are three kinds of collections: users, txt file, and database. Users will login with ID and password and be able to operate the database depend on their authority. Database stores txt file that is imported from txt file and divided by name of the imported .txt file. The text in .txt file can be store into database, and text in database can be downloaded as .txt file. The source code resides in `Main.py` and three method function `login.py`, `edit.py` and `function.py`

Users:

We will have three kinds of users for this database, each has different authority to different methods:

- Admin: It has full access to all user list operation and database operation
 - For userlist: Listuser, Changepassword, Delete, Add, Promote, Demote, Sync, Restore, Exit
 - For database: Read, Savetxt, Deletetxt, Showtxt, Downloadtxt, Syncfile, Restorefile
- Manager: It has full access to database operation (except for sync and restore), and partial access to user list operation:
 - For userlist: Listuser, Changepassword, Deleteuser, Exit
 - For database: Read, Savetxt, Deletetxt, Showtxt, Downloadtxt

- User: It has access to part of user operation that is about its own account, and partial database operation.
 - For user list: Listuser, Changepassword, Exit
 - For database: Read,Savetxt,Showtxt,Downloadtxt

Operations:

- Database function:
 - Savetxt: take an input of a txt file and save its information into our local database. The text in database will also be distinguished by the authority of the people who stored it.
 - Showtxt: show the name of txt file that is saved in the database. It will only show the name of text who is stored by user who has the same or lower authority than it.
 - Read: Take input of the txt file name and show its content if such txt exists in the database. It can only read the text that is stored by user who has the same or lower authority than it.
 - Deletetxt: Take an input of the txt file name and delete such txt with this name if existed in the database
 - Downloadtxt: Take an unput of the txt file name and export such txt with this name into an external txt file.

- Syncfile: This is the function that can only be used by the Admin. It syncs the information of the database into a backup file.
- Restorefile: This is the function that can only be used by the Admin. It restores the information from the backup file.
- User function:
 - Listuser: List the name of each user. You can only see the name of user that has the same or lower privilege as you.
 - Changepassword: Change your own password
 - Exit: Exit the database
 - Add: It will take 2 inputs: Username, privilege and create a user. Username is the name for log in, it should be unique, and it cannot be admin. Privilege is the authority of this user in this database, 1 is for user, 2 is for manager and 3 is for admin. All the users will be created with default password "111111". Only admin can add user.
 - Promote: Change the privilege of a user to manager. Only admin can promote
 - Demote: Change the privilege of a manager to user. Only admin can demote.
 - Delete: Delete a user or manager from user list. Manager can only delete user. Admin can delete user and manager. You cannot delete an admin.
 - Sync: This is the function that can only be used by the Admin. It syncs the information of the user list into a backup file.

- Restore: This is the function that can only be used by the Admin. It restores the user list from the backup file.