This is a program with a user interface based on the Tkinter package that simulates a virtual

club cash system. A Python interpreter 3.10 or newer must be installed with the libraries and support programs of the standard installation from www.python.org.

Start the program "dict.py" in the usual way for the respective operating system, from the interpreter shell or in an IDE, e.g. IDLE.

For further information on the documentation, see analysis.  
No bugs are known.

1) Analysis

The program is comprised of two files: execute.py and databank.py

Execute.py is filled with the tkinter and all execution within the widget window.

It has been diced into multiple parts, first the login page that is comprised of the inputs, forget button and the submit button. With inputting any of these data points:

Ensign\_Twiva NqKX069L; Beckett\_Mariner OnH139sp; Wes\_Crusher 850QuL96;   
Sam\_Rutherford 0ITF8cO2; Jack\_Ransom tSh8c8j3; Dvana\_Tendi Yor4T4Z2;   
Leutenant\_Castro fC584HGq; Mo\_Opsy', '3S2k5WYu; Bradward\_Boimler c1jV1k4p;   
Anton\_Kusnezow 253DzRap

Login is the name-string and the password is the random arrangements of numbers and letters. Using this to log in, you get an information to what role you have. Depending on the role, different windows are opened.   
The **user** window is the easiest, it is just a simple one, where you can look at something and then either quit the entire the program or log out again.   
The **treasurer** is one step above it, the treasurer’s task sets are to make deposits and withdrawals for their own department/club, to transfer money to other accounts and view the transaction history. Here we assumed it would be good to let treasurers see ALL operations, as they would need to oversee, just for ease of looking other treasurers’ activities. This view possible by printing a statement as a csv file titled “transactions.csv” which will show up and be updated every time the button is pressed.  
The **financial officer** is one step above the treasurer. He can see all currents, having the possibility to look at it either by selecting one department/club or just by downloading the overall current account statements. These also show up as csv files and are titled differently. The department-based ones are called “current\_balance\_department.csv” and the overall file is called “all\_departments\_balance.csv” which can be found in the same folder as the python files. The financial officer does not belong to a club/department.  
The **admin** is has the highest priority, there can be only one and deleting the admin role is not possible. We made it so that it is a dictator type role, once for the lifetime. The admin has the most tasks, to assign accounts, to create departments/club accounts, to update club member's info, to remove club member and to save the current status in a csv, this would incorporate all overall statuses. All people signed into the app, the transfers and the overall current account statements. All of that as csv files too.

(Input the explanation to the databank here)

2) Coding

Implemented with Python 3.x.

3) Testing

It works

4) User Manual on how to recreate the private testing

1) Run execute.py

2) log in using   
Login: Bradward\_Boimler, Password: c1jV1k4p

3) see how you are furthered to another window  
4) After oohing and aahing over the picture, press logout  
5) Log in using  
Login: Jack\_Ransom, Password: tSh8c8j3

6) Watch being in the treasurer menu, press “Issue Finances”, it leads you to the deposits and withdrawals, try it out and observe the operations going through, even if one of the inputs is empty  
7) Press the “Back” button to return to the menu  
8) Press “Issue Transfer” and type in “football” and any amount of money, then submit  
9) Stay in the menu and now type “hiking” and any amount of money, then submit again  
10) Press the “Back” button

11) Press “View History” and open your folder to see a new csv file pop up. Open it to check the transfer history  
12) Log out again  
13) Log in using  
Login: Beckett\_Mariner, Password: OnH139sp  
14) Welcome to the financial officer menu. Press “View Status”  
15) Type as a club “football” and press submit  
16) Type as a club “hiking” and press submit  
17) Press the “Back” button to return to the menu  
18) Press “View Overall Current”  
19) Now go into your folder to find three new csv files all titled as said in the Analysis, open them to make sure all went well  
20) Log out again  
21) Log in using  
Login: Ensign\_Twiva, Password: NqKX069L

22) You are now in the admin menu, have a look around.  
23) Press the “Add User” Button  
24) Put in a login name in this fashion “firstname\_lastname” and a random password. Even if you want to create a financial officer or treasurer, just input “football” or “hiking”, it will be changed later.  
25) press the “Back” button and press “Print Statement”, the new csv file ‘users.csv’ listed all previous and newly input users with their password, role and club/department  
26) Go over to “Update User” and fill in all bubbles, then press “Submit”  
27) Go back to the menu and press “Print Statement” again to check if it went through  
28) Go to “Remove User” and fill in the name and password of the person you want to delete, print the statement again to make sure all went well  
29) Go back to the menu and press “Add Club”, fill the form out and print the statement a last time to make sure all works  
30) Be happy you are done and play around a bit more