

Class Relationship and Separation of Concerns

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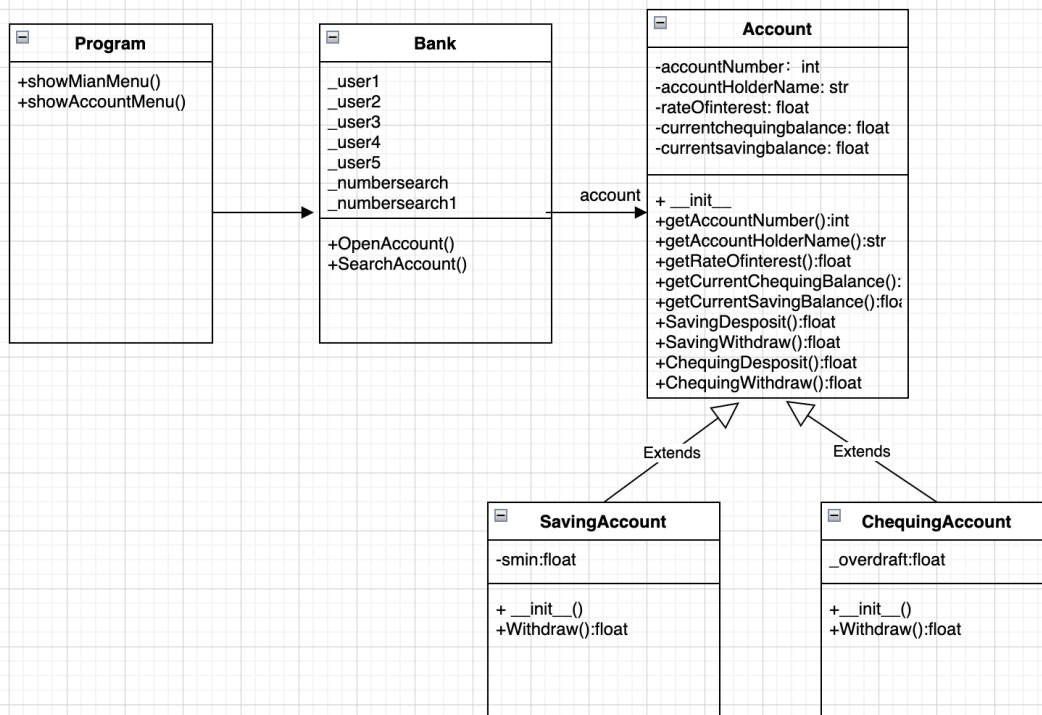
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Prog 10004 Programming Principles

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This is an object-oriented program that creates a simple banking application which has a function that allows the user to select an account, withdraw, deposit and check balance. When the user chooses his account right, it will pass the parameters to account class. The account class provides the basic functions like check balance, deposit, withdraw and check interest rate. The saving class is the inheritance of the account class. It has only one method which is “withdraw”. When the user applies the withdraw method, it will call the account method first to check if the leftover amount is beyond minimum or not. If the leftover is not enough, the transition will be rejected. This situation is also suitable for the Chequing Account Class. Another class is Bank. It has a record of users’ information including account number, name, rate of interest, balance. All the information is stored by list. This class also has a method that is called SearchAccount. This method will help users find the right

account. Last class is Program class. It has two methods to display the main menu, account information and control the whole program operation.

Firstly, I have to admit this is the hardest assignment since beginning. At the beginning, I was really confused about the relationship between all these classes. Also I didn't know where I should start this projector. Through the professor's hints in the class, I learned to start class accounts first and the composite relationship between saving account and account. I tried many times to use composite, but it wasn't going through. I had to change to inheritance. The second obstacle is how to find the right account for users and pass the parameters to account class. I put all the account numbers in one list and do the for loop. I also design another five users' information in one list. When the account number is matched, the method will return the corresponding users and pass the parameters. The third obstacle is that I need to pass the parameter to the saving and chequing account in order to call methods from this class. In the future, I want to add two more functions. One is that we can transfer the money between saving and Chequing Account. Another one is that we can apply a rate of interest to increase the current balance by month.