

# Homework 5

Yifu He 190003956

**Team member:**

Yifu He 190003956

**Extra credit:**

1,2,3,4 all Finished

Test Sample:

**Menu:**

6~7 choices are set for **extra credits** student account

```
Choose an Option
1.Transactoin
2.Creat New Account
3.Delete Account
4.Print All
5.Exit
6.Set the minimal balance for all student account
7.Set the service fee for specific student accoount

Enter your choice -->>
```

**Test:** if there is no account in the system, and activate option 1 3 4.

```
Enter your choice -->> 1
There is no account in the system!
```

```
Enter your choice -->> 3
There is no account in the system!
```

```
Enter your choice -->> 4
There is no account in the system!
```

**Test:** Create account

```
Enter your choice -->> 2
Creating Account....
Please enter owner name: Jason
Initial amount: 1000
Type of Account c(checking), s(saving), p(pupil): c
Your account number is 0
```

```
Enter your choice -->> 2
Creating Account....
Please enter owner name: Jason
Initial amount: 5000
Type of Account c(checking), s(saving), p(pupil): s
Your account number is 1
Please enter Option
```

```
Enter your choice -->> 2
Creating Account....
Please enter owner name: April
Initial amount: 5000
Type of Account c(checking), s(saving), p(pupil): c
Your account number is 2
```

#### Extra credit 4 : student account

Need one more term "service fee" to be set while creating.

```
Enter your choice -->> 2
Creating Account....
Please enter owner name: Student
Initial amount: 1000
Type of Account c(checking), s(saving), p(pupil): p
Service Fee for student account: 0.5
Your account number is 3
```

#### Extra credit 1~2: error checking and friendly interface

1.user name cannot be null, number cannot be negative

```
Enter your choice -->> 2
Creating Account....
Please enter owner name:

Cannotbenull
Initial amount: -100
Invalid value: Amount cannot be negtive! Input again!
Initial amount: 250
Type of Account c(checking), s(saving), p(pupil): c
Your account number is 4
```

```
Enter your choice -->> k
Type of Account c(checking), s(saving), p(pupil): k
Invalid value: No such account type! Input again!
Type of Account c(checking), s(saving), p(pupil): s
Your account number is 5
```

2. Menu cannot out of range

```
Enter your choice -->> 8
Wrong Choice: Choice should be between 1~7.

Enter your choice -->> k
Wrong Choice: Choice should be between 1~7.

Enter your choice -->> @
Wrong Choice: Choice should be between 1~7.
```

Test: print all the accounts in the system

```
Enter your choice -->> 4
Print all account

Account number -- 0
Account holder -- Jason
Checking Account balance -- 1000

Account number -- 1
Account holder -- Jason
Saving Account balance -- 5000

Account number -- 2
Account holder -- April
Checking Account balance -- 5000

Account number -- 3
Account holder -- Student
Student Account balance -- 1000

Account number -- 4
Account holder -- Cannotbenull[?][?][?][?]
Checking Account balance -- 250

Account number -- 5
Account holder -- No
Saving Account balance -- 1231
```

Test: delete

```
Enter your choice -->> 3
Delete Account
Please enter your account number:
4
```

After delete:

```
Enter your choice -->> 4
Print all account

Account number -- 0
Account holder -- Jason
Checking Account balance -- 1000

Account number -- 1
Account holder -- Jason
Saving Account balance -- 5000

Account number -- 2
Account holder -- April
Checking Account balance -- 5000

Account number -- 3
Account holder -- Student
Student Account balance -- 1000

Account number -- 5
Account holder -- No
Saving Account balance -- 1231
```

Extra credit: delete out of range

```
Enter your choice -->> 3
Delete Account
Please enter your account number:
6
No such an account, 6
```

Test:

```
Enter your choice -->> 1
In Transaction....
```

Choose an Option

1. Deposit
2. Withdraw
3. Transfer from Checking to Saving
4. Transfer from Saving to Checking
5. Back to Main Menu
6. Calculate and add interest

Transaction: (extra credit)

Deposit

```
Enter your choice -->> 1
Enter Account Number: -120
No such a account number! Re-enter the Account Number
Enter Account Number: 120
No such a account number! Re-enter the Account Number
Enter Account Number: 0
Enter Deposit Amount: -1200
Invalid value: Amount cannot be negtive! Input again!
Enter Deposit Amount: 1200
    credit to account: 1200
Checking account Balance: 2200
```

```
Enter your choice -->> 1
Enter Account Number: 1
Enter Deposit Amount: 120
    credit to account: 120
Saving account Balance: 5120
```

Withdraw:

```
Enter your choice -->> 2
Enter Account Number: 0
Enter Withdraw Amount: 0
    debit to account: 0
Checking account Balance: 2200
```

```
Enter your choice -->> 2
Enter Account Number: 0
Enter Withdraw Amount: 1200
    debit to account:    1200
Checking account Balance: 1000
```

```
Enter your choice -->> 2
Enter Account Number: 0
Enter Withdraw Amount: 10000
Debit amount exceeded account balance.
```

```
Account number -- 0
Account holder -- Jason
Checking Account balance -- 1000
```

```
Enter your choice -->> 2
Enter Account Number: 0
Enter Withdraw Amount: -10000
Invalid value: Amount cannot be negative! Input again!
Enter Withdraw Amount: 1000
    debit to account:    1000
Checking account Balance: 0
```

3~4 Transfer:

```
Enter your choice -->> 4
Enter Saving account number: 1
Enter Checking account number: 0
Enter transfer amount: 1500
    debit to account:    1500
Saving account Balance: 3620
    credit to account:   1500
Checking account Balance: 1500
```

```
Enter your choice -->> 3
Enter Checking account number: 0
Enter Saving account number: 1
Enter transfer amount: 500
    debit to account:    500
Checking account Balance: 1000
    credit to account:   500
Saving account Balance: 4120
```

## Error handling

```
Enter your choice -->> 3
Enter Checking account number: 1000
No such a account number! Re-enter the Account Number
Enter Checking account number: 0
Enter Saving account number: -100
No such a account number! Re-enter the Account Number
Enter Saving account number: 1
Enter transfer amount: 10000
Debit amount exceeded account balance.
Fail to transacti
```

```
Enter your choice -->> 4
Enter Saving account number: 1
Enter Checking account number: 0
Enter transfer amount: -5000
Invalid value: Amount cannot be negtive! Input again!
Enter transfer amount: 100000
Debit amount exceeded account balance.
Fail to transacti
```

**Extra credit:** (service fee and threshold for student account)



```
Account number -- 0
Account holder -- Jason
Checking Account balance -- 1000
```

```
Account number -- 1
Account holder -- Jason
Saving Account balance -- 4120
```

```
Account number -- 2
Account holder -- April
Checking Account balance -- 5000
```

```
Account number -- 3
Account holder -- Student
Student Account balance -- 1000
```

```
Account number -- 5
Account holder -- No
Saving Account balance -- 1231
```

```
Enter your choice -->> 1
Enter Account Number: 3
Enter Deposit Amount: 111
    credit to account: 111
Student account Balance: 1111
```

```
Enter your choice -->> 2
Enter Account Number: 3
Enter Withdraw Amount: 101
    debit to account 101
    balance is greater than the minimal threshold (0)
Student account balance: 1010
```



```
Enter your choice -->> 5
Choose an Option
  1.Transactoin
  2.Creat New Account
  3.Delete Account
  4.Print All
  5.Exit
  6.Set the minimal balance for all student account
  7.Set the service fee for specific student accoount

Enter your choice -->> 6
Setting....

Enter Account Number: 3
Enter the new threshold: 500
```

```
Enter Account Number: 3
Enter the new threshold: 500
Choose an Option
  1.Transactoin
  2.Creat New Account
  3.Delete Account
  4.Print All
  5.Exit
  6.Set the minimal balance for all student account
  7.Set the service fee for specific student accoount

Enter your choice -->> 7
Enter Account Number: 3
Enter the Service Fee: 5
```

```
Enter your choice -->> 2
Enter Account Number: 3
Enter Withdraw Amount: 100
  debit to account    100
  balance is greater than the minimal threshold (500)
Student account balance:    910
```

```
Enter your choice -->> 2
Enter Account Number: 3
Enter Withdraw Amount: 410
    debit to account    410
    balance is greater than the minimal threshold (500)
Student account balance:    500
```

```
Enter your choice -->> 2
Enter Account Number: 3
Enter Withdraw Amount: 50
    debit to account    50
    balance is less than the minimal threshold (500)
    charge service fee  5
Student account balance:    445
```

```
Enter your choice -->> 2
Enter Account Number: 3
Enter Withdraw Amount: 45
    debit to account    45
    balance is less than the minimal threshold (500)
    charge service fee  5
Student account balance:    395
```

Test setservicefee and setthreshold for other account

```
Enter your choice -->> 6
Setting....

Enter Account Number: 1
Enter the new threshold: 100
Saving account has no minimal banlance
```

```
Enter your choice -->> 7
Enter Account Number: 0
Enter the Service Fee: 100
Checking account has no service fee
```

Extra credit: interest

```
Account number -- 0
Account holder -- Jason
Checking Account balance -- 1000
```

```
Enter your choice -->> 6
Enter Account Number: 0
Enter interest rate: 0.05
interest rate is 5%
Checking account balance: 1050
```

```
Account number -- 1
Account holder -- Jason
Saving Account balance -- 5000
```

```
Enter your choice -->> 6
Enter Account Number: 1
Enter interest rate: 0.1
interest rate is 10%
Saving account balance: 5500
```

```
Account number -- 3
Account holder -- Student
Student Account balance -- 1000
```

```
Enter your choice -->> 6
Enter Account Number: 3
Enter interest rate: 0.05
Student account has no interest
```

Extra test: when all the accounts are deleted

```
Enter your choice -->> 3
Delete Account
Please enter your account number:
0
Enter your choice -->> 3
Delete Account
Please enter your account number:
1
Enter your choice -->> 3
Delete Account
Please enter your account number:
2
```

```
Enter your choice -->> 3
Delete Account
Please enter your account number:
3
```

```
Enter your choice -->> 3
Delete Account
Please enter your account number:
4
No such an account, 4
Enter your choice -->> 3
Delete Account
Please enter your account number:
5
```

```
Choose an Option
1.Transactoin
2.Creat New Account
3.Delete Account
4.Print All
5.Exit
6.Set the minimal balance for all student account
7.Set the service fee for specific student acoount
```

```
Enter your choice -->> 1
There is no account in the system!
```

```
Enter your choice -->> 4
There is no account in the system!
```

**Test:** go back to main menu

Choose an Option

1. Deposit
2. Withdraw
3. Transfer from Checking to Saving
4. Transfer from Saving to Checking
5. Back to Main Menu
6. Calculate and add interest

Enter your choice -->> 5

Choose an Option

1. Transactoin
2. Creat New Account
3. Delete Account
4. Print All
5. Exit
6. Set the minimal balance for all student account
7. Set the service fee for specific student acoount

Enter your choice -->> |