**Test runs:**

Note that the Main class does not store data (e.g., account information) to any persistent storage at runtime. Therefore, each run is independent from others. You don’t need to handle illegal inputs from users (e.g., providing a string when the program expects a number) in this assignment.

1. Create an account

Initializing bank service: no accounts yet, 100000.00 ¥ cash available

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

1

Please provide the following information:

Your first name: Yepang

Your last name: Liu

Your gender (type 'm' for Male and 'f' for Female): m

Your social security number: 12345678

Congrats, Mr. Liu! Your account is created successfully.

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

0

Process finished with exit code 0

1. Create an account with an invalid name

Initializing bank service: no accounts yet, 100000.00 ¥ cash available

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

1

Please provide the following information:

Your first name: 123

Your last name: Liu

Your gender (type 'm' for Male and 'f' for Female): m

Your social security number: 12345678

Invalid name

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

0

Process finished with exit code 0

1. Create an account with invalid gender input

Initializing bank service: no accounts yet, 100000.00 ¥ cash available

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

1

Please provide the following information:

Your first name: Yepang

Your last name: Liu

Your gender (type 'm' for Male and 'f' for Female): x

Your social security number: 12345678

Invalid input for gender

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

0

Process finished with exit code 0

1. Create an account with an invalid social security number

Initializing bank service: no accounts yet, 100000.00 ¥ cash available

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

1

Please provide the following information:

Your first name: Yepang

Your last name: Liu

Your gender (type 'm' for Male and 'f' for Female): m

Your social security number: 12345

Invalid social security number

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

0

Process finished with exit code 0

1. Create multiple accounts using a social security number

Initializing bank service: no accounts yet, 100000.00 ¥ cash available

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

1

Please provide the following information:

Your first name: yepang

Your last name: LIU

Your gender (type 'm' for Male and 'f' for Female): M

Your social security number: 12345678

Congrats, Mr. Liu! Your account is created successfully.

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

1

Please provide the following information:

Your first name: Yepang

Your last name: Liu

Your gender (type 'm' for Male and 'f' for Female): m

Your social security number: 12345678

Mr. Liu, you already have an account with a balance 0.00 ¥.

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

0

Process finished with exit code 0

1. Create an account and check balance

Initializing bank service: no accounts yet, 100000.00 ¥ cash available

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

1

Please provide the following information:

Your first name: Yueming

Your last name: Zhu

Your gender (type 'm' for Male and 'f' for Female): f

Your social security number: 12345678

Congrats, Ms. Zhu! Your account is created successfully.

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

2

Please provide your social security number: 12345678

Ms. Zhu, your account balance: 0.00 ¥

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

0

Process finished with exit code 0

1. Check the balance of an account that does not exist

Initializing bank service: no accounts yet, 100000.00 ¥ cash available

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

2

Please provide your social security number: 12345678

No account found

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

0

Process finished with exit code 0

1. Create an account and make a deposit

Initializing bank service: no accounts yet, 100000.00 ¥ cash available

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

1

Please provide the following information:

Your first name: Yueming

Your last name: zhu

Your gender (type 'm' for Male and 'f' for Female): f

Your social security number: 12345678

Congrats, Ms. Zhu! Your account is created successfully.

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

3

Please provide your social security number: 12345678

Deposit amount (¥): 1800

Original balance: 0.00 ¥

Balance after deposit: 1800.00 ¥

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

0

Process finished with exit code 0

1. Make a deposit to an account that does not exist

Initializing bank service: no accounts yet, 100000.00 ¥ cash available

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

3

Please provide your social security number: 12345678

Deposit amount (¥): 12000

No account found

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

0

Process finished with exit code 0

1. Make a deposit with an invalid social security number

Initializing bank service: no accounts yet, 100000.00 ¥ cash available

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

3

Please provide your social security number: 123eee

Deposit amount (¥): 13

Invalid social security number

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

0

Process finished with exit code 0

1. Make a deposit with an invalid amount

Initializing bank service: no accounts yet, 100000.00 ¥ cash available

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

1

Please provide the following information:

Your first name: Yepang

Your last name: Liu

Your gender (type 'm' for Male and 'f' for Female): M

Your social security number: 12345678

Congrats, Mr. Liu! Your account is created successfully.

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

3

Please provide your social security number: 12345678

Deposit amount (¥): -88

Invalid amount

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

0

Process finished with exit code 0

1. Create an account, make a deposit and withdraw money

Initializing bank service: no accounts yet, 100000.00 ¥ cash available

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

1

Please provide the following information:

Your first name: Yepang

Your last name: Liu

Your gender (type 'm' for Male and 'f' for Female): m

Your social security number: 12345678

Congrats, Mr. Liu! Your account is created successfully.

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

3

Please provide your social security number: 12345678

Deposit amount (¥): 10000

Original balance: 0.00 ¥

Balance after deposit: 10000.00 ¥

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

4

Please provide your social security number: 12345678

Withdraw amount (¥): 1538

Original balance: 10000.00 ¥

Balance after deposit: 8462.00 ¥

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

0

Process finished with exit code 0

1. Withdraw money from an account that does not exist

Initializing bank service: no accounts yet, 100000.00 ¥ cash available

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

4

Please provide your social security number: 12345678

Withdraw amount (¥): 100

No account found

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

0

Process finished with exit code 0

1. Withdraw money from an account that does not have enough balance

Initializing bank service: no accounts yet, 100000.00 ¥ cash available

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

1

Please provide the following information:

Your first name: Yepang

Your last name: Liu

Your gender (type 'm' for Male and 'f' for Female): m

Your social security number: 12345678

Congrats, Mr. Liu! Your account is created successfully.

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

3

Please provide your social security number: 12345678

Deposit amount (¥): 10000

Original balance: 0.00 ¥

Balance after deposit: 10000.00 ¥

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

4

Please provide your social security number: 12345678

Withdraw amount (¥): 20000

No enough balance or cash

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

0

Process finished with exit code 0

1. Withdraw money from an account but the bank does not have enough cash

Initializing bank service: no accounts yet, 100000.00 ¥ cash available

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

1

Please provide the following information:

Your first name: Yepang

Your last name: Liu

Your gender (type 'm' for Male and 'f' for Female): m

Your social security number: 12345678

Congrats, Mr. Liu! Your account is created successfully.

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

3

Please provide your social security number: 12345678

Deposit amount (¥): 1000000000

Original balance: 0.00 ¥

Balance after deposit: 1000000000.00 ¥

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

4

Please provide your social security number: 12345678

Withdraw amount (¥): 1000000

No enough balance or cash

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

0

Process finished with exit code 0

1. Withdraw money from an account but the amount is invalid

Initializing bank service: no accounts yet, 100000.00 ¥ cash available

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

1

Please provide the following information:

Your first name: Yepang

Your last name: Liu

Your gender (type 'm' for Male and 'f' for Female): m

Your social security number: 12345678

Congrats, Mr. Liu! Your account is created successfully.

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

4

Please provide your social security number: 12345678

Withdraw amount (¥): -5

Invalid amount

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

0

Process finished with exit code 0

1. Calculate the monthly payment of a 30-year mortgage loan

Initializing bank service: no accounts yet, 100000.00 ¥ cash available

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

5

Loan amount (¥): 3000000

Loan term (years): 30

Calculation result:

Loan amount: 3,000,000.00 ¥

Yearly interest rate: 4.90%

Number of installments (months): 360

Monthly payment: 15,921.80 ¥

Total interest: 2,731,848.58 ¥

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

0

Process finished with exit code 0

1. Calculate the monthly payment of a 3-year mortgage loan

Initializing bank service: no accounts yet, 100000.00 ¥ cash available

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

5

Loan amount (¥): 30000

Loan term (years): 3

Calculation result:

Loan amount: 30,000.00 ¥

Yearly interest rate: 4.75%

Number of installments (months): 36

Monthly payment: 895.76 ¥

Total interest: 2,247.48 ¥

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

0

Process finished with exit code 0

1. Calculate the monthly payment of a mortgage loan with an invalid amount (non-positive value)

Initializing bank service: no accounts yet, 100000.00 ¥ cash available

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

5

Loan amount (¥): -30000

Loan term (years): 3

invalid loan

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

0

Process finished with exit code 0

1. Calculate the monthly payment of a mortgage loan with an invalid term (shorter than one year)

Initializing bank service: no accounts yet, 100000.00 ¥ cash available

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

5

Loan amount (¥): 3000000

Loan term (years): 0

invalid loan

- Press 1 to create an account

- Press 2 to check account balance

- Press 3 to make a deposit

- Press 4 to withdraw cash

- Press 5 to get advices on house mortgage loan

- Press 0 to exit

0

Process finished with exit code 0