HW2 : ATM Simulation with OOP

- OOP : Object-Oriented Programming with python
- create ATM class at least 5 methods
- There are transactions about **Deposit**, **Withdrawal**, **Check balance**, **Transfer**, **Change Account Name** and **Change Account Password**.

```
class ATM:
    def __init__(self,acc_name,acc_pw: str,balance: float) :
        self.acc_name = acc_name
        self.acc_pw = acc_pw
        self.balance = balance
        details = f"Here is your account details :\n  Account name : {self.acc_na
        print(details)
    def login(self,password):
        if password == self.acc_pw :
            print(f"Successfully login!")
        else :
            print("Your password is not correct, please try again.")
    def deposit(self, dep_money: float):
        self.balance += dep_money
        print(f"Your deposit amount is {dep_money} THB.")
        print(f"New balance is {self.balance} THB.\nSuccessfully deposit.")
    def withdrawal(self, wtd_money: float):
        self.balance -= wtd_money
        print(f"Withdraw amount : {wtd_money} THB.")
        print(f"New balance is {self.balance} THB.")
    def check_balance(self):
        print(f'Your current balance is {self.balance} THB.')
    def change_name(self,new_acc_name: str):
        self.acc_name = new_acc_name
        print(f"Your new account name is {self.acc_name}")
        print("Your account name has been changed.")
    def change_pw(self,new_acc_pw: str):
        self.acc_pw = new_acc_pw
        print(f"New password : {self.acc_pw}")
        print("Your account password has been changed.")
```

```
# create select menu function
import pandas as pd
menu_df = pd.DataFrame({
```

```
    'Number' : [1,2,3,4,5],
    'Transaction' : ['Deposit','Withdrawal','Check Balance','Change Account Name'
})


def menu(index) :
    if index == 1 :
        dep_value = float(input('Deposit amount :'))
        print('****************************************************')
        k_bank.deposit(dep_value)
        print('****************************************************')
    elif index == 2 :
        wtd_value  = float(input('Withdrawal value :'))
        print('****************************************************')
        k_bank.withdrawal(wtd_value)
        print('****************************************************')
    elif index == 3 :
        print('****************************************************')
        k_bank.check_balance()
        print('****************************************************')
    elif index == 4 :
        new_name = input('Enter your new account name :')
        print('****************************************************')
        k_bank.change_name(new_name)
        print('****************************************************')
    elif index == 5 :
        new_pw = input('Enter your new account password :')
        print('****************************************************')
        k_bank.change_pw(new_pw)
        print('****************************************************')
    else :
        pass
```

```
import pandas as pd
# starter object
# assume all customer always know their own card id after they created their acco
customer = pd.DataFrame({
    'card_id' : ['4869'],
    'acc_name' : ['ai'],
    'acc_pw' : ['ai123'],
    'acc_balance' : [500]
})

## login
login_list = []
i = 0

# existing account
existing_acc = input('Have you already had an existing account? [Y/N] :')
if existing_acc.lower() == 'y' :
```

```
    login_list.append(input('Your card id :'))
    login_list.append(input('Your account name :'))
    login_list.append(input('Password :'))
    login_df = customer[ (customer['card_id']==login_list[0]) & (customer['acc_na
    while i < 1 :
        if login_list[2] == login_df['acc_pw'][0] :
            print('*************** Successfully login! ***************')
            k_bank = ATM(login_df['acc_name'][0], login_df['acc_pw'][0], login_df
            print('*****************************************************')
            i += 1
        else :
            print('*****************************************************')
            print("You entered incorrect password. Please try again.")
            print('*****************************************************')

# create an account
else :
    create_list = [input('Enter your card id (4 digits) :'), input('Enter your ac
                   input('Create password :'), float(input('Enter your balance :'

    new_acc = pd.DataFrame({
        'card_id' : [create_list[0]],
        'acc_name' : [create_list[1]],
        'acc_pw' : [create_list[2]],
        'acc_balance' : [create_list[3]]
    })

    # collect new account data
    customer = customer.append(new_acc)
    print('*************************************************')
    print('Already signed up an account.')
    k_bank = ATM(create_list[1], create_list[2], create_list[3])
    print('*************************************************')

# select menu
k = 0
while k < 1 :
    action = input('Is there any transaction you want to do ? [Y/N] :')
    j = 0
    if action.lower() == 'y' :
        while j < 1 :
            print(f"Here is the transaction menu.\n {menu_df}")
            index = int(input('Please select the number :'))
            menu(index)
            j += 1
    else :
        print("##### Thank you for choosing us. Have a nice day! #####")
        j += 1
        k += 1
```

```
Have you already had an existing account? [Y/N] : n
Enter your card id (4 digits) : 7777
Enter your account name : iii
```

```
Create password : ioio
Enter your balance : 8000
************************************************
Already signed up an account.
Here is your account details :
  Account name : iii
  Password : ioio
  Account balance : 8000.0 THB.
************************************************
Is there any transaction you want to do ? [Y/N] : n
##### Thank you for choosing us. Have a nice day! #####
```

```
print(customer)
```

```
  card_id acc_name acc_pw  acc_balance
0    4869       ai  ai123        500.0
0    7777      iii   ioio       8000.0
```