

ankAccount.py

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1 class BankAccount:
2     def __init__(self, account_holder, initial_balance=0, atm_pin=None):
3         self.account_holder = account_holder
4         self.balance = initial_balance
5         self.atm_pin = atm_pin
6         self.transaction_count = 0 # Initialize the transaction count to 0
7
8     def deposit(self, amount):
9         if amount > 0:
10             self.balance += amount
11             self.transaction_count += 1
12             print(f"Deposited {amount} Rs. New balance: {self.balance}")
13             self.check_transaction_count()
14         else:
15             print("Deposit amount must be greater than zero.")
16
17     def withdraw(self, amount):
18         if self.atm_pin is None:
19             print("Transaction PIN is not set. Please set your Transaction PIN.")
20             return
21
22         if 0 < amount <= self.balance and self.validate_pin():
23             self.balance -= amount
24             self.transaction_count += 1
25             print(f"Withdrew {amount} Rs. New balance: {self.balance}")
26             self.check_transaction_count()
27         else:
28             print("Invalid withdrawal amount or invalid PIN.")
29
30     def check_balance(self):
31         print(f"Current balance for {self.account_holder} is: {self.balance}")
32
33     def validate_pin(self):
34         entered_pin = input("Enter your Transaction PIN: ")
35         return entered_pin == self.atm_pin
36
37     def check_transaction_count(self):
38         if self.transaction_count >= 3:
39             print("Congratulations! You've earned 1 credit point.")
40
41     def calculate_interest(self, rate=0.01):
42         # Calculate and add interest to the account balance
43         interest = self.balance * rate
44         self.balance += interest
45         print(f"Interest of {interest} Rs added. New balance: {self.balance}")
46
47 def main():
48     print("Welcome to Our Bank!")
49     try:
50         account_holder = input("Enter account holder's name: ")
51         initial_balance = float(input("Enter initial balance: "))
52         atm_pin = input("Set your Transaction PIN: ")
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53     user_account = BankAccount(account_holder, initial_balance, atm_pin)
54
55     while True:
56         print("\nSelect an option:")
57         print("1. Deposit")
58         print("2. Withdraw")
59         print("3. Check Balance")
60         print("4. Calculate Interest")
61         print("5. Exit")
62
63         choice = input("Enter option number: ")
64
65         if choice == "1":
66             try:
67                 amount = float(input("Enter deposit amount: "))
68                 user_account.deposit(amount)
69             except ValueError:
70                 print("Invalid input. Please enter a valid amount.")
71         elif choice == "2":
72             try:
73                 amount = float(input("Enter withdrawal amount: "))
74                 user_account.withdraw(amount)
75             except ValueError:
76                 print("Invalid input. Please enter a valid amount.")
77         elif choice == "3":
78             user_account.check_balance()
79         elif choice == "4":
80             user_account.calculate_interest()
81         elif choice == "5":
82             print("Thank you for using our bank services!")
83             break
84         else:
85             print("Invalid choice. Please select a valid option.")
86     except ValueError:
87         print("Invalid input. Please enter valid account information.")
88
89 if __name__ == "__main__":
90     main()
91
```