class ATM:

def \_\_init\_\_(self, pin):

"""Initialize the ATM with a starting balance, pin, and an empty transaction history."""

self.balance = 0

self.pin = pin

self.transaction\_history = []

def check\_pin(self, pin\_input):

"""Check if the entered PIN is correct."""

return self.pin == pin\_input

def balance\_inquiry(self):

"""Return the current balance."""

return self.balance

def deposit(self, amount):

"""Deposit a specified amount and record the transaction."""

if amount > 0:

self.balance += amount

self.transaction\_history.append(f"Deposited: {amount}")

print(f"Deposit successful! Current balance: {self.balance}")

else:

print("Invalid deposit amount!")

def withdraw(self, amount):

"""Withdraw a specified amount if sufficient balance is available and record the transaction."""

if 0 < amount <= self.balance:

self.balance -= amount

self.transaction\_history.append(f"Withdrew: {amount}")

print(f"Withdrawal successful! Current balance: {self.balance}")

else:

print("Insufficient balance or invalid amount!")

def change\_pin(self, old\_pin, new\_pin):

"""Change the PIN if the old PIN is correct."""

if self.check\_pin(old\_pin):

self.pin = new\_pin

self.transaction\_history.append("PIN changed")

print("PIN successfully changed!")

else:

print("Incorrect old PIN!")

def show\_transaction\_history(self):

"""Display the transaction history."""

if self.transaction\_history:

print("Transaction History:")

for transaction in self.transaction\_history:

print(transaction)

else:

print("No transactions yet.")

# Main simulation function

def atm\_simulation():

print("Welcome to the ATM!")

pin = int(input("Please set your initial PIN: "))

atm = ATM(pin)

while True:

print("\nATM Menu:")

print("1. Balance Inquiry")

print("2. Cash Deposit")

print("3. Cash Withdrawal")

print("4. Change PIN")

print("5. Transaction History")

print("6. Exit")

choice = int(input("Choose an option: "))

if choice == 1:

entered\_pin = int(input("Enter your PIN: "))

if atm.check\_pin(entered\_pin):

print(f"Your balance is: {atm.balance\_inquiry()}")

else:

print("Incorrect PIN!")

elif choice == 2:

entered\_pin = int(input("Enter your PIN: "))

if atm.check\_pin(entered\_pin):

amount = float(input("Enter the amount to deposit: "))

atm.deposit(amount)

else:

print("Incorrect PIN!")

elif choice == 3:

entered\_pin = int(input("Enter your PIN: "))

if atm.check\_pin(entered\_pin):

amount = float(input("Enter the amount to withdraw: "))

atm.withdraw(amount)

else:

print("Incorrect PIN!")

elif choice == 4:

entered\_pin = int(input("Enter your old PIN: "))

if atm.check\_pin(entered\_pin):

new\_pin = int(input("Enter your new PIN: "))

atm.change\_pin(entered\_pin, new\_pin)

else:

print("Incorrect PIN!")

elif choice == 5:

entered\_pin = int(input("Enter your PIN: "))

if atm.check\_pin(entered\_pin):

atm.show\_transaction\_history()

else:

print("Incorrect PIN!")

elif choice == 6:

print("Thank you for using the ATM. Goodbye!")

break

else:

print("Invalid option! Please try again.")

# Run the simulation

atm\_simulation()