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Task no: 7

Question : Project

ATM STIMULATION APP:

This project is a basic ATM system with a graphical interface using **Tkinter**. The user can:

- Login to account using card number and pin
- Check their balance
- Deposit money
- Withdraw money
- Logout

Import libraries:

```
import tkinter as tk
from tkinter import messagebox
```

- `tkinter`: Creating the window and buttons (GUI).
- `messagebox`: Show messages like "Login successful!" or "Error".

User Data Accounts:

```
accounts = {
    '97686655': {'pin': '4276', 'balance': 5000},
    '68576488': {'pin': '6467', 'balance': 3000},
    '76465385': {'pin': '6758', 'balance': 10000},
}
```

- The Bank Accounts stored in a dictionary.
- Each card number has a **PIN** and **balance**.

Main App Window:

```
# Main App Window
app = tk.Tk()
app.title("ATM Simulation")
app.geometry("400x400")
```

- `app = tk.Tk()` creates the main window.
- `.title()` sets the window title.
- `.geometry()` sets the size of the window.

Create two Frames:

```
# Frames
login_frame = tk.Frame(app)
menu_frame = tk.Frame(app)
```

- `login_frame`: For logging in.
- `menu_frame`: For ATM actions like balance, deposit, etc.
- We will **show and hide** these frames as needed.

Login Screen:

```
def show_login():
    menu_frame.pack_forget()
    login_frame.pack()
```

- Hides the menu screen and shows the login screen.

```
def login():
    global current_user
    card = card_entry.get()
    pin = pin_entry.get()
```

- Gets card number and PIN entered by the user.

```
 if card in accounts and accounts[card]['pin'] == pin:
        current_user = card
        messagebox.showinfo("Success", "Login successful!")
        show_menu()
```

- If the entered info matches an account → login is successful.

```
 else:
        messagebox.showerror("Error", "Invalid card number or PIN.")
```

- Otherwise, it shows an error.

Login Screen:

```
tk.Label(login_frame, text="Card Number").pack()
card_entry = tk.Entry(login_frame)
card_entry.pack()

tk.Label(login_frame, text="PIN").pack()
pin_entry = tk.Entry(login_frame, show='*')
pin_entry.pack()

tk.Button(login_frame, text="Login", command=login).pack()
```

- These lines add the text fields and login button for user input.

ATM Menu Function:

Once user logs in, the menu screen shows options:

```
def show_menu():
    login_frame.pack_forget()
    menu_frame.pack()
```

Check Balanace:

```
def check_balance():
    balance = accounts[current_user]['balance']
    messagebox.showinfo("Balance", f"Your balance is Rs. {balance}")
```

- Shows the current balance of the logged-in user.

Deposit Money:

```
def deposit():
    amount = simple_input("Enter amount to deposit:")
    if amount:
        accounts[current_user]['balance'] += amount
        messagebox.showinfo("Deposit", "Deposit successful!")
```

- Gets an amount from the user, adds it to their balance.

Withdraw Money:

```
def withdraw():
    amount = simple_input("Enter amount to withdraw:")
    if amount:
        if amount > accounts[current_user]['balance']:
            messagebox.showerror("Error", "Insufficient balance.")
        else:
            accounts[current_user]['balance'] -= amount
            messagebox.showinfo("Withdraw", "Withdrawal successful!")
```

- Checks if the user has enough money.
- If yes, it deducts the amount.
- If not, shows an error.

Logout:

```
def logout():
    global current_user
    current_user = None
    messagebox.showinfo("Logout", "You have been logged out.")
    show_login()
```

- Clears the logged-in user and goes back to the login screen.

Menu Frame Buttons:

```
tk.Button(menu_frame, text="Check Balance",
command=check_balance).pack(pady=5)
tk.Button(menu_frame, text="Deposit", command=deposit).pack(pady=5)
tk.Button(menu_frame, text="Withdraw", command=withdraw).pack(pady=5)
tk.Button(menu_frame, text="Logout", command=logout).pack(pady=5)
```

- **Buttons that trigger the actions above.**

Input Box:

```
def simple_input(prompt):
```

This creates a **input box** for entering deposit or withdrawal amounts.

- It checks if the user typed a number.
- Then returns that number to use in deposit/withdrawal.

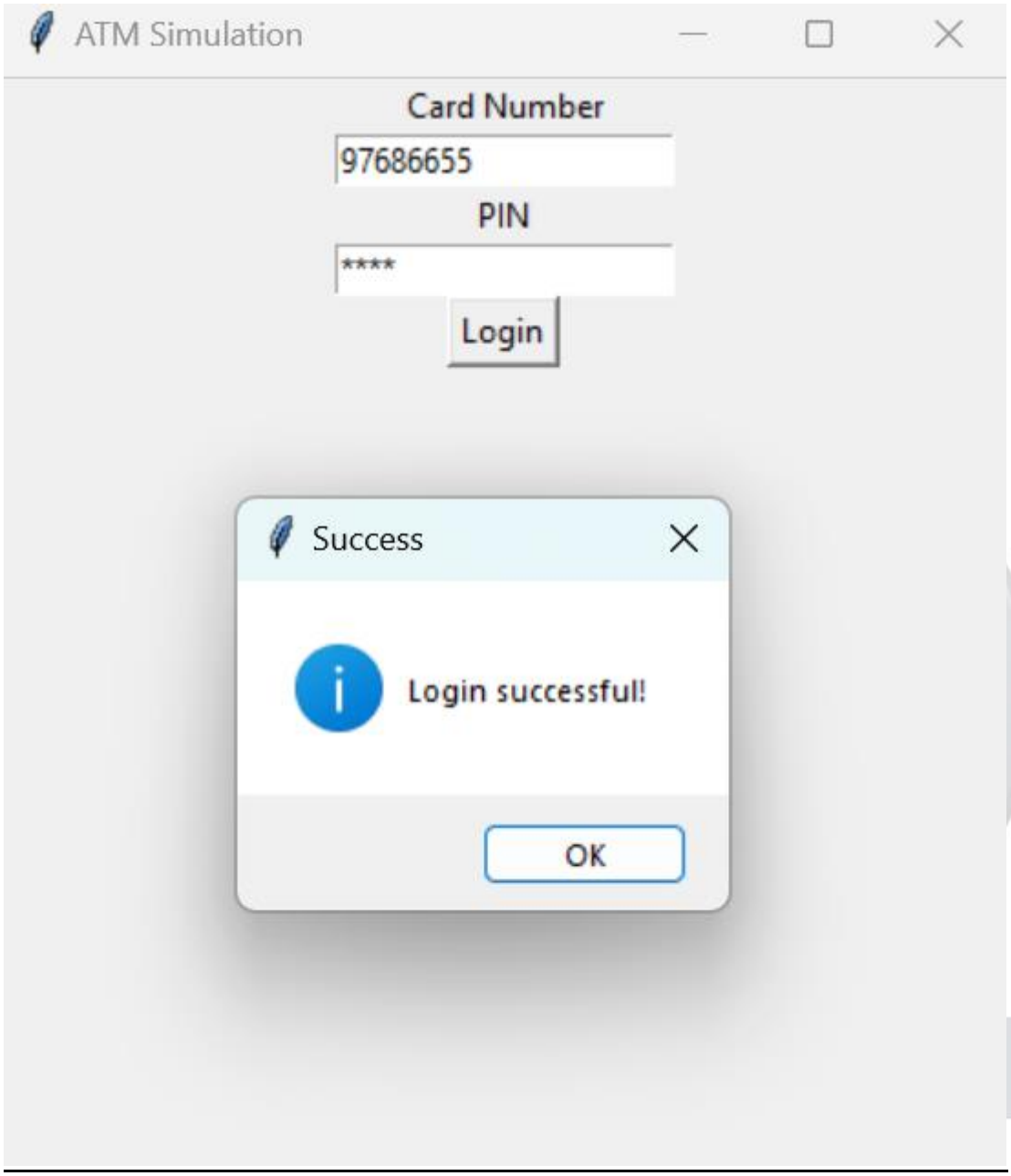
Start The App:

```
show_login()
app.mainloop()
```

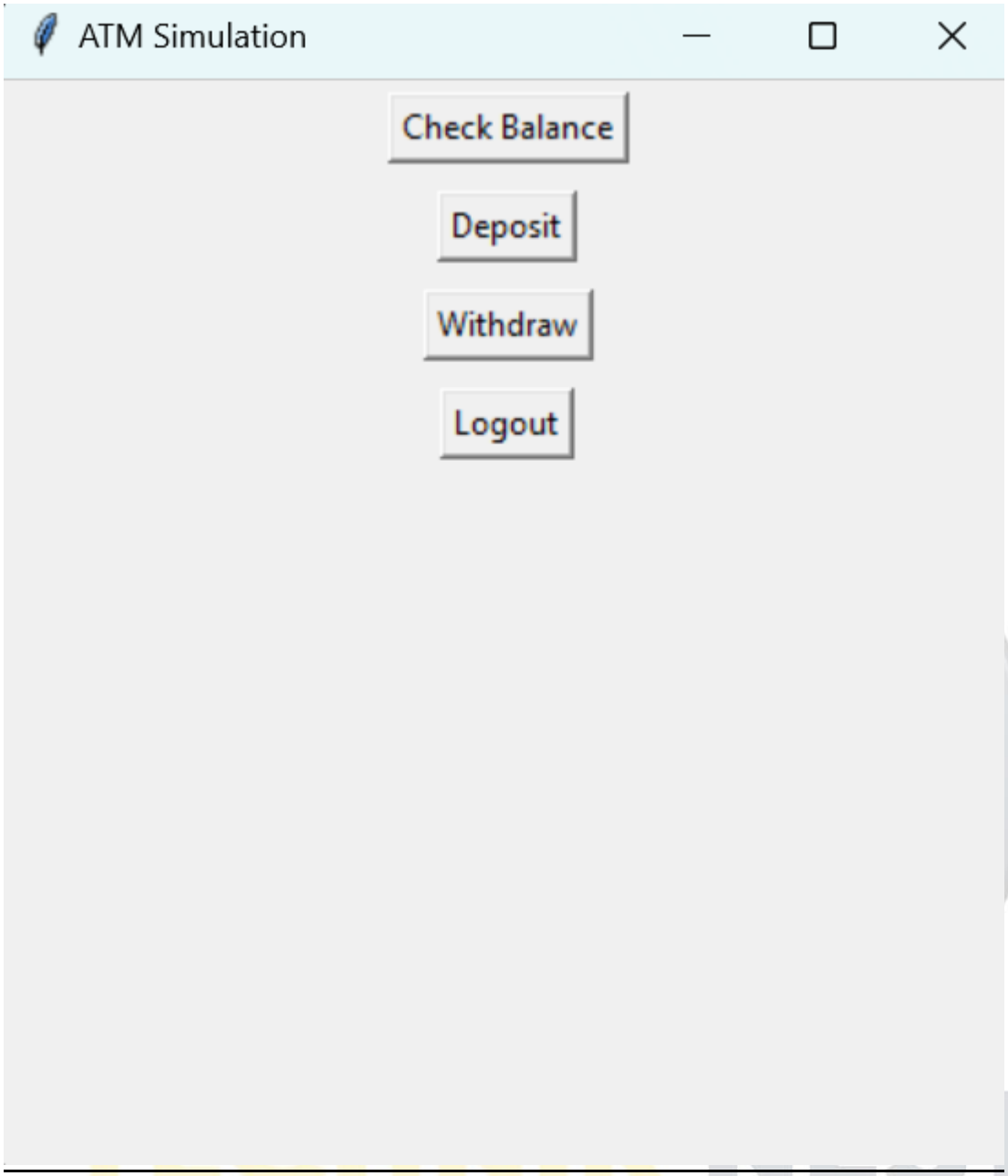
- `show_login()` displays the login screen first.
- `app.mainloop()` keeps the app running.

Output:

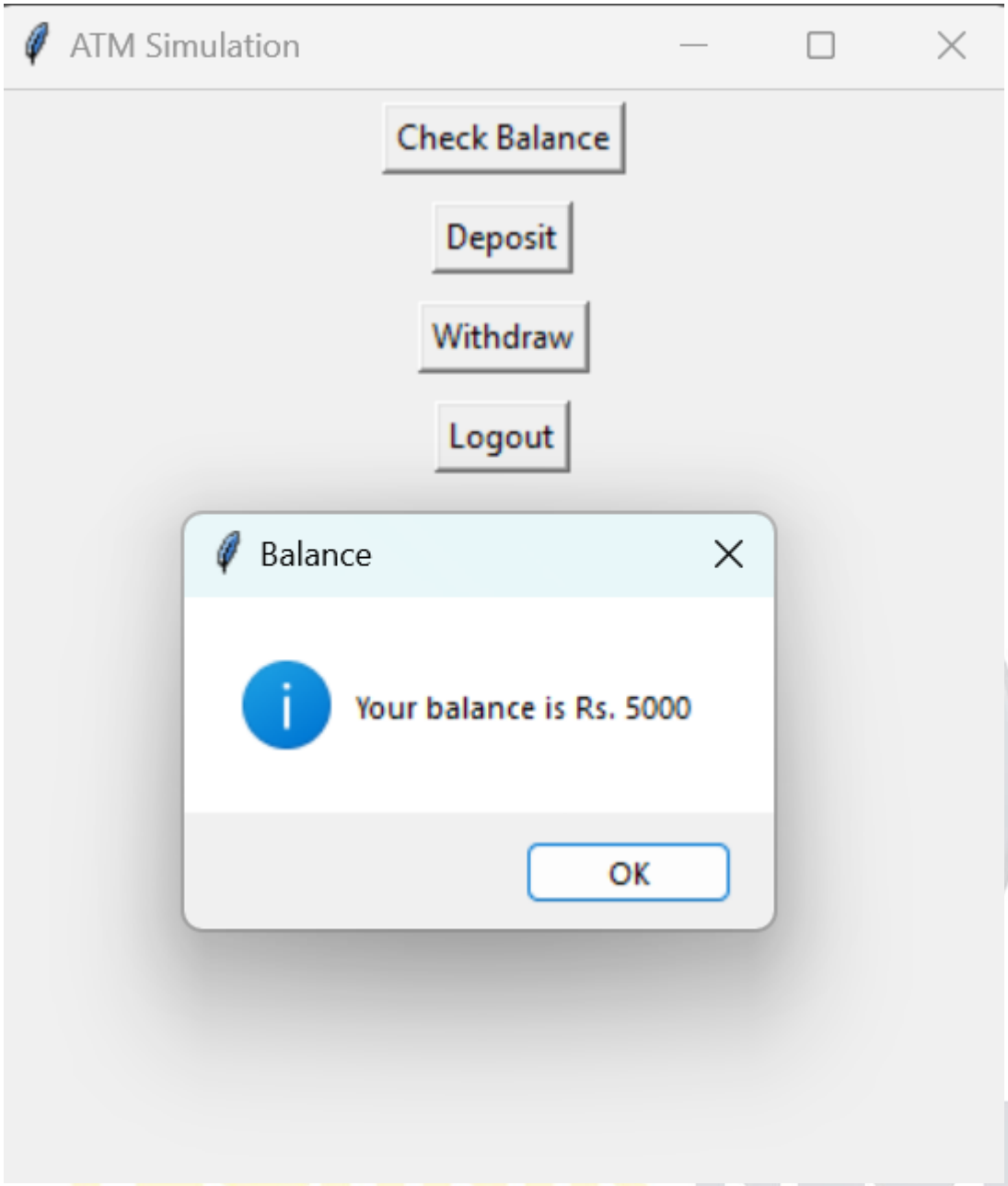
Login through Card Number and Pin:



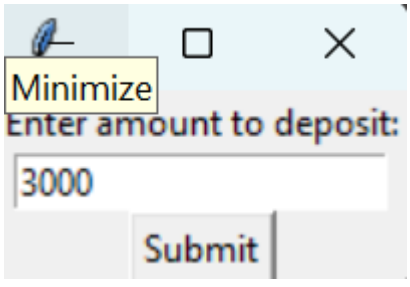
ATM Menu:



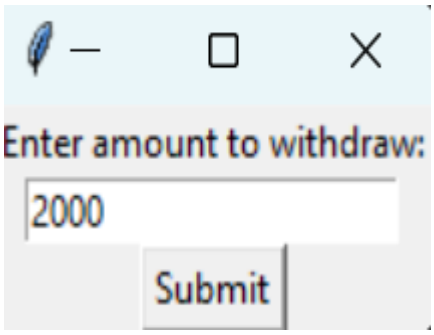
Check Balance:



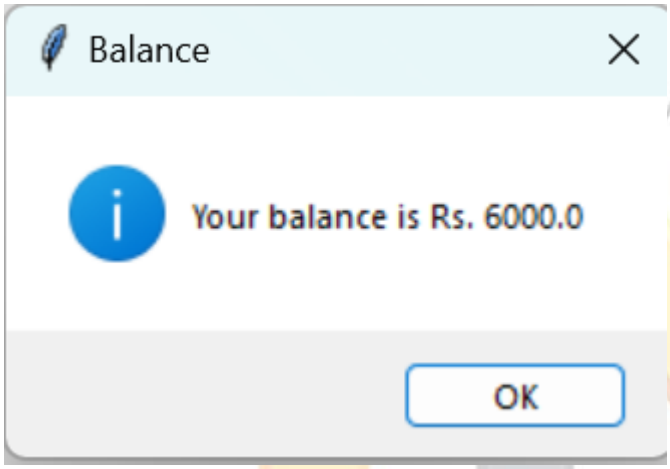
Deposit Amount:



Withdraw Amount:



Again Check Balance:



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