Project Title: ATM Interface Using Python

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Date of Submission: 10-June-2025

1. Introduction

This project simulates a basic ATM (Automated Teller Machine) interface using Python. It mimics real-life ATM functions like checking balance, depositing money, withdrawing money, and exiting the system. The user is required to enter a correct PIN to access the services.

2. Objective

The main objective of this project is to:

- Understand basic Python programming concepts like classes, loops, conditionals, and exception handling.
- Simulate real-time banking operations for learning purposes.
- Implement a user-friendly command-line interface.

3. Technologies Used

- Programming Language: Python 3.x
- Platform: Console (CLI)
- IDE Used: Any Python-supported IDE (VS Code, PyCharm, IDLE, etc.)

4. Key Features

1. PIN Authentication - Secures access to the ATM system.
2. Check Balance - Displays the current account balance.
3. Deposit Money - Allows user to add funds to the account.
4. Withdraw Money - Enables user to withdraw amount (checks for sufficient balance).
5. Exit - Exits the system safely.

5.Working Logic

- When the program starts, it prompts the user to enter a PIN.

- If the PIN is correct, a menu is displayed to perform ATM operations.

- All inputs are validated to ensure proper operation and prevent errors like negative deposits or overdrafts.

6.Sample Output

===== Welcome to Python ATM =====

Enter your 4-digit PIN: 1234

Authentication Successful

----- ATM Menu -----

1. Check Balance
2. Deposit Money
3. Withdraw Money
4. Exit

7.Advantages

- Simple and easy-to-use interface.

- Encourages logical thinking and hands-on coding practice.

- No external libraries needed – works with standard Python.

8.Limitations

- Single user only (no account management).
- No real-time transaction logging or data storage.
- Text-based interface, no GUI.

9.Future Enhancements

- Add multiple user account support with login/logout.
- Use file or database to store user balances.
- Build a GUI using Tkinter or PyQt.
- Add transaction history and mini statements.

10.Conclusion

The ATM Interface project is a beginner-level Python program that demonstrates basic object-oriented programming and control flow. It successfully simulates core ATM functions in a text-based environment and can be extended to include more advanced features.