

Project Title: Banking System

Overview

In this project, we will create a **mini banking system** in Java. Our application will enable a user to deposit and withdraw money from an account, while using a nice interface in the console.

Requirements

1. Interface

- Create an interface (**Transactable**) with two methods:
 - **boolean deposit(double amount)**
 - **boolean withdraw(double amount)**.
- This interface will be implemented by any class that handles basic transaction operations.

2. Custom Exception

- Define a custom checked exception class (**InsufficientFundsException**).
- When the user attempts to withdraw more money than the current balance, the exception should be **thrown**.

3. Account Class

- Implement the **interface**.
- Contain at least:
 - A String field for the account **name**
 - A double field for the **balance** .
- The **deposit()** and **withdraw()** methods should:
 - **Validate** inputs (avoid negative deposits or withdrawals).
 - Throw the **custom exception** if a withdrawal exceeds the balance.
- Optionally include getters for balance and account name.

4. Main Class

- Prompt the user with a **menu** to choose actions:
 - **Deposit**
 - **Withdraw**
 - **Show Balance**
 - **Exit**
 - Use **control flow** (**while** loop, **switch** statement, etc.) to handle user choices.
 - **Catch** and handle your custom exception. For example, if a user tries to withdraw more money than the balance, display an error message and continue the program gracefully (different messages for different errors)
 - Implement **input validation** (catching **InputMismatchException** for non-numeric inputs).
-

5. Extras (recommended, not hard just more):

- Create another class that holds different accounts and have another level of choosing the account wanted.
- Create another class that will represent a bank, will implement also the interface, but in addition to the normal “account” he will have a list of accounts that owes him money.
- Create a class that will take the data in and from files, like a database. Meaning, at the start of each request we will “fetch” the file and read his data (don’t forget, its a bank account so make sure its encrypted - Serialized)