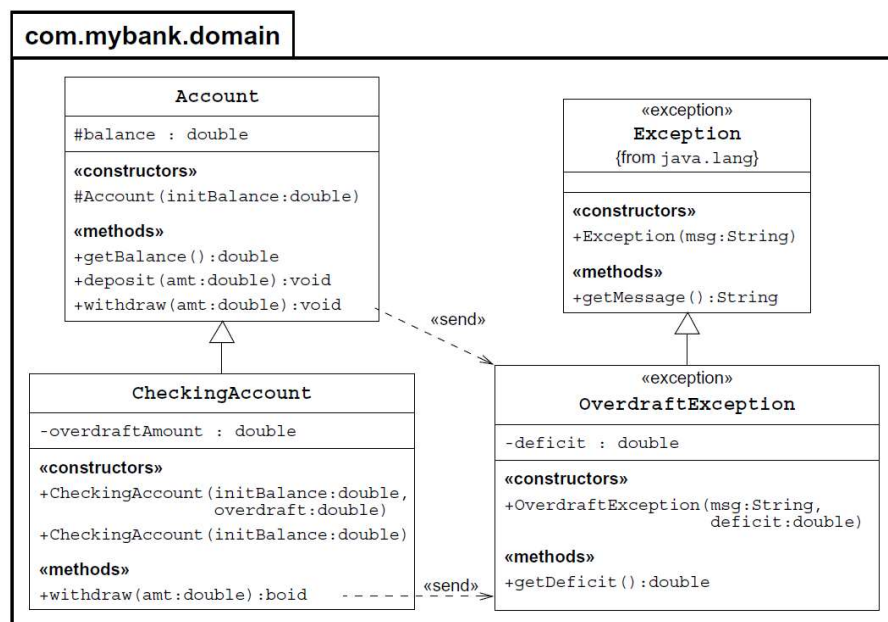


Exceptions and Assertions

Lab 12: Creating Your Own Exception

In this exercise, you create an `OverdraftException` that is thrown by the `withdraw` method in the `Account` class. In the previous design, the `deposit` and `withdraw` methods return a `Boolean` flag to indicate whether the operation was successful or not. This design has several flaws, one of which is that a false return value does not give the calling client any indication of why the operation was not successful. In the new design, you will use exceptions to indicate operation failure.

Figure below shows UML class diagram of this new design. In UML parlance, the `<<send>>` dependency indicates that the method on the source operation (the `withdraw` method) may throw an `OverdraftException`.



1. Create the `OverdraftException` class in the `com.mybank.domain` package. This class must satisfy the UML diagram above.
2. Modify the `Account` class file in the `com.mybank.domain` package of the `BankProject`. This class must satisfy the UML diagram in figure shown above. In particular, the `deposit` and `withdraw` methods should not return a `Boolean` flag.
3. Modify the `CheckingAccount` class file in the `com.mybank.domain` package. This class must satisfy the UML diagram in figure shown above.
4. Delete the current `TestBanking` class. Download the new `TestBanking` file and add it into `com.mybank.test` package.
5. Run the test program. The output should be similar to the following.

Customer [Simms, Jane] has a checking balance of 200.0 with a 500.00 overdraft protection.
Checking Acct [Jane Simms] : withdraw 150.00
Checking Acct [Jane Simms] : deposit 22.50
Checking Acct [Jane Simms] : withdraw 147.62
Checking Acct [Jane Simms] : withdraw 470.00
Exception: Insufficient funds for overdraft protection Deficit: 470.0
Customer [Simms, Jane] has a checking balance of 0.0

Customer [Bryant, Owen] has a savings balance of 200.0
Savings Acct [Owen Bryant] : withdraw 100.00
Savings Acct [Owen Bryant] : deposit 25.00
Savings Acct [Owen Bryant] : withdraw 175.00
Exception: Insufficient funds Deficit: 50.0
Customer [Bryant, Owen] has a savings balance of 125.0