Digital Product Architecture and Design

First Assignment  
Ron Morim

209414523

GITHUB LINK:

The codes creates a basic bank system that allows for opening and closing accounts, withdrawing money, and checking account balances, with different rules and restrictions for each account type. The three different account types: Standard, Basic and Premium are represented by separate classes that implement the IAccount interface which is provided by the lecturer. The IAccount interface defines four methods: Deposit, Withdraw, GetCurrentBalance, and GetAccountNumber.

The StandardAccount class has a constructor that takes in an account number (int) and a credit limit (double) as arguments. If a positive credit limit is sent, it is treated as zero. The class also implements the methods defined in the IAccount interface provided by the lecturer. The Withdraw method checks if the amount to be withdrawn exceeds the credit limit, if so it will only withdraw the amount allowed and return that amount.

The BasicAccount class extends the StandardAccount class and has a constructor that takes in an account number (int) and a withdrawal limit (double) as arguments. The withdrawal limit is always set as a positive double. The class also implements the Withdraw method, which checks if the amount to be withdrawn exceeds the withdrawal limit, if so it will only withdraw the amount allowed and return that amount.

The PremiumAccount class also extends the StandardAccount class and has a constructor that takes in only the account number (int) as an argument. It implements the Withdraw method, which allows withdrawals of any amount.

The Bank class holds a list of accounts and has several actions that can be performed. The Bank class implements the IBank interface, which is also provided by the lecturer and defines five methods: OpenAccount, CloseAccount, GetAllAccounts, GetAllAccountsInDebt, and GetAllAccountsWithBalance. These methods allow the Bank class to add and remove accounts, retrieve all accounts, get all accounts in debt and get all accounts with a balance greater than a certain value.

Overall, the provided code creates a basic bank system that allows for opening and closing accounts, withdrawing money, and checking account balances, with different rules and restrictions for each account type, using the interfaces IAccount and IBank provided by the lecturer.