Project Name: UVU Bank Application

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<u>Objective</u>: Develop a C# console application for banking that allows creating and interacting with individual accounts.

<u>Phase 3:</u> Update AccountManager to store/get accounts by account number. Update Program class to test functionality of account creation and manipulation..

Classes & Interfaces:

- **IAccount Interface**: A public interface to allow the user to interact with the account type. All fields will be accessed using getters and setters. Functions are defined by inheriting methods.
- Account Class: A public abstract class to store information and define all of the account
 interactions. It inherits from the IAccount interface and contains private values with
 getters and setters. Methods like PayInFunds and WithdrawFunds allow users to access
 and change their dollar amounts. An account must be one of the three types:
 - SavingsAccount: A concrete class of account with a minimum balance of \$100 and minimum service fee of \$0
 - CheckingAccount: A concrete class of account with a minimum balance of \$10 and minimum service fee of \$5
 - CDAccount: A concrete class of account with a minimum balance of \$500 and minimum service fee of \$8
- AccountManager: A class to store and return the accounts in a dictionary
- **Program Class**: An internal class that handles input/output for the program. The user input is validated and prompted when the program is running.

UML

+SetServiceFee(decimal fee): bool +GenerateAccountNumber(): str

<<interface>> NOTE **IAccount** New additions are green +SetName(str inName): bool +GetName(): str +SetAddress(str inAddress): bool **Program** +GetAddress(): str -manager: AccountManager +PayInFunds(decimal amount): void +WithdrawFunds(decimal amount): bool +Main(str[] args): void +SetBalance(decimal inBalance): bool +CreateNewAccount(): IAccount +GetBalance(): decimal +AccessAccount(IAccount account): void +SetState(AccountState state): bool +OutputAccountInfo(Account accountName): void +GetState(): AccountState +WaitForUser(): void +GetServiceFee(): decimal +SetServiceFee(decimal fee): bool +GetAccountType(): AccountType AccountManager +GetAccountNumber(): str -accounts: Dictionary +StoreAccount(IAccount account): bool +GetAccount(string number): IAccount Account -name: str **SavingsAccount** -address: str -balance: decimal >= 100 -accountState: enum +SetBalance(decimal inBalance): bool -accountType: enum +SetServiceFee(decimal fee): bool -serviceFee: decimal -accountNumber: str CheckingAccount +SetName(str inName): bool +GetName(): str +SetAddress(str inAddress): bool +GetAddress(): str +SetBalance(decimal inBalance): bool +PayInFunds(dec amount): bool +SetServiceFee(decimal fee): bool +WithdrawFunds(dec amount): bool +SetBalance(dec inBalance): bool +GetBalance(): dec **CDAccount** +SetState(AccountState state): void +GetState(): AccountState +GetAccountNumber(): str +GetAccountType(): AccountType +SetBalance(decimal inBalance): bool +GetServiceFee(): decimal +SetServiceFee(decimal fee): bool