Bachelor of Cyber Security - Pathway Program (Year 1)

CICRA
C A M P U S

SIT232 Object‑Oriented Development Assignment 7.2C

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Banking Application Design

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Transaction

```
# _amount: decimal
# _success: Boolean
- _executed: Boolean
- _reversed: Boolean
- _dateStamp: DateTime
+ <>Success: Boolean {read-only}
+ <>Executed: Boolean {read-only}
+ <> Reversed: Boolean {read-only}
+ <> DateStamp: DateTime {read-only}
+ <> Amount: decimal {read-only
```
```
+ Transaction( amount: decimal )
+ GetAccountName()
+ Execute(): void
+ Rollback(): void
```

Bank

```
- _accounts: List
- _transactions: List
+ <>Transaction: List {read-only}
```
```
+ Bank()
+ AddAccount( account: Account ): void
+ GetAccount( name: string): Account
+ Execute( transaction: Transaction ): void
+ Rollback( transaction: Transaction ): void
+ TransactionType( transaction: Transaction ): string
+ TransactionStatus( transaction: Transaction ):string
+ PrintTransactionHistory(): void
```

Account

```
- _name: string
- _balance: decimal
+ <>Name: string {read-only}
+ <>Balance: decimal {read-only}
```
```
+ Account( name: string, balance: decimal = 0)
+ Deposit( amount: decimal ): Boolean
+ Withdraw( amount: decimal ): Boolean
+ Print(): void
```

DepositTransaction

```
_account: Account
+ <>Account {read-only}
```
```
DepositTransaction( account: Account, amount: decimal )
+ GetAccountName(): string
+ Print(): void
+ Execute(): void
+ Rollback(): void
```

WithdrawTransaction

```
- _account: Account
+ <>Account {read-only}
```
```
+ WithdrawTransaction( account: Account, amount: decimal )
+ GetAccountName(): string
+ Print(): void + Execute(): void
+ Rollback(): void
```

TransferTransaction

```
- _account: Account
+ <>Account {read-only}
```
```
+ WithdrawTransaction( account: Account, amount: decimal )
+ GetAccountName(): string
+ Print(): void
+ Execute(): void
+ Rollback(): void
```

BankSystem

```
+CreateAccount
+ Withdraw
+ Deposit
+ Transfer
+ Rollback
+ Print
+ Quit
```
```
+ Main(): void
+ ReadString( prompt: string ): string
+ ReadInteger( prompt: string ): int
+ ReadInteger( prompt: string, min: int, max: int ): int
+ ReadDecimal( prompt: string ): decimal
+ DisplayMenu(): void
+ ReadUserOption(): MenuOption
+ DoWithdraw( bank: Bank ): void
+ DoDeposit( bank: Bank ): void
+ DoTransfer( bank: Bank ): void
+ DoPrint( bank: Bank ): void
+ DoRollback( bank: Bank ): void
+ CreateAccount( bank: Bank ): void
- FindAccount( bank: Bank ): Account
```