



Pseudocode;

Base class; Account.

Class Account

Properties:

- AccountNumber (protected)
- Balance (protected)
- AccountHolder (protected)

Methods:

↳ Constructor (AccountNumber, AccountHolder, Initial Balance)

↳ Initialising account number, Account holder, balance

Codes
classdef Account
Properties

AccountNumber

Balance

AccountHolder

end.

Methods

function obj = Account

classdef Account

Properties (Access = protected).

AccountNumber

Balance

AccountHolder

end.

Methods.

function obj = Account(accountNumber, accountHolder, initialBalance)

obj.AccountNumber = accountNumber

obj.AccountHolder = accountHolder

obj.Balance = initialBalance

end

% method to deposit money.

function obj = deposit(obj, amount)

if amount > 0

obj.Balance = obj.Balance + amount

fprintf('Deposited Shs. 2f, New Balance: Shs 2f/n', amount, obj.Balance)

else

error

end

end.

% Method to withdraw money.

function obj = withdraw(obj, amount)

if amount <= obj.Balance && amount > 0

obj.Balance = obj.Balance - amount

fprintf('Withdraw Shs %.2f, New Balance Shs. 2f/n', amount, obj.Balance)

else

error('Insufficient funds')

end.

function displayDetails (obj).

fprintf ('Account Holder: %s\n, Account Number: %s\n, Balance: \$%s\n', obj.AccountHolder, obj.AccountNumber, obj.Balance);

end.

% Protected getter & Balance.

function balance = getBalance(obj).

balance = obj.Balance;

end

end

end.

② Derived class & CheckingAccount and SavingsAccount.

classdef SavingsAccount < Account.

Properties (Access = private)

InterestRate.

methods.

function obj = SavingsAccount (accountNumber, accountHolder, initialBalance)

obj @ Account (_____, _____, _____).

obj.InterestRate = InterestRate;

end.

% methods to apply interest rate

function obj = applyInterest (obj)

Interest = obj.Balance * obj.InterestRate / 100;

obj.Balance = obj.Balance + Interest;

fprintf ('Applied \$%s Interest, New balance: %s\n', Interest, obj.Balance);

end

end

end.

~~% methods for main~~

Main program

1. Create a saving account.

savings = savingsAccount('SA123', 'Ibrahim', 1000, 5);

2. Display Initial Details

savings.displayDetails();

3. Perform operations

savings = savings.deposit(500); // Deposit money.

savings = savings.withdraw(300);

savings = savings.applyInterest();

4. Display final details

savings.displayDetails();