EV Project Submission

Name: - Atharva P. Athanikar

USN ID: - 72287317E

Title: - Simple Banking System.

Design a simple banking system that allows customers to have savings and checking accounts. Customers should be able to deposit, withdraw money and check their account balances.

1. Create interface BankAccount with 3 methods- deposit(), withdraw(), getBalance()

**package** Simple\_Banking\_System;

**interface** Bank\_Account {

**void** deposit(**int** amount);

**void** withdraw(**int** amount);

**int** getBalance();

}

1. Implement two classes “SavingsAccount” and “CheckingAccount” which implement the BankAccount.

**package** Simple\_Banking\_System;

**class** SavingsAccount **implements** Bank\_Account {

**private** **int** balance;

**public** SavingsAccount() {

balance = 0;

}

**public** **void** deposit(**int** amount) {

**if** (amount > 0) {

balance = balance + amount;

System.***out***.println("Amount Deposited is : " + amount);

} **else** {

System.***out***.println("Invalid amount for deposit.");

}

}

**public** **void** withdraw(**int** amount) {

**if** (amount > 0 && amount <= balance) {

balance = balance - amount;

System.***out***.println("Amount Withdrawn is : " + amount);

} **else** {

System.***out***.println("Invalid amount for withdrawal.");

}

}

**public** **int** getBalance() {

**return** balance;

}

}

**class** CheckingAccount **implements** Bank\_Account {

**private** **int** balance;

**public** CheckingAccount() {

balance = 0;

}

**public** **void** deposit(**int** amount) {

**if** (amount > 0) {

balance = balance + amount;

System.***out***.println("Amount Deposited is : " + amount);

} **else** {

System.***out***.println("Invalid amount for deposit.");

}

}

**public** **void** withdraw(**int** amount) {

**if** (amount > 0 && amount <= balance) {

balance = balance - amount;

System.***out***.println("Amount Withdrawn is : " + amount);

} **else** {

System.***out***.println("Invalid amount for withdrawal.");

}

}

**public** **int** getBalance() {

**return** balance;

}

}

**public** **class** PS2\_Savings\_Checking {

**public** **static** **void** main(String[] args) {

}

}

1. Create class “BankCustomer” to represent a customer of the bank.
2. With properties – customer name and customer’s bank accounts.
3. Methods deposit() and withdraw()

**package** Simple\_Banking\_System;

**class** BankCustomer {

**private** String customerName;

**private** SavingsAccount savingsAccount;

**private** CheckingAccount checkingAccount;

**private** String accountType;

**public** BankCustomer(String customerName) {

**this**.customerName = customerName;

savingsAccount = **new** SavingsAccount();

checkingAccount = **new** CheckingAccount();

}

**public** **void** deposit(**int** amount, String accountType) {

**if** (accountType.equalsIgnoreCase("savings")) {

savingsAccount.deposit(amount);

} **else** **if** (accountType.equalsIgnoreCase("checking")) {

checkingAccount.deposit(amount);

} **else** {

System.***out***.println("Invalid account type");

}

}

**public** **void** withdraw(**int** amount, String accountType) {

**if** (accountType.equalsIgnoreCase("savings")) {

savingsAccount.withdraw(amount);

} **else** **if** (accountType.equalsIgnoreCase("checking")) {

checkingAccount.withdraw(amount);

} **else** {

System.***out***.println("Invalid account type");

}

}

**public** **int** getBalance(String accountType) {

**if** (accountType.equalsIgnoreCase("savings")) {

**return** savingsAccount.getBalance();

} **else** **if** (accountType.equalsIgnoreCase("checking")) {

**return** checkingAccount.getBalance();

} **else** {

System.***out***.println("Invalid account type");

**return** -1;

}

}

**public** String getAccountType() {

**return** accountType;

}

**public** **void** setAccountType(String accountType) {

**this**.accountType = accountType;

}

}

**public** **class** PS3\_BankCustomer {

**public** **static** **void** main(String[] args) {

}

}

1. Create main method to create instance and execute the program.

**package** Simple\_Banking\_System;

**import** java.util.Scanner;

**public** **class** PS4\_Main {

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.print("Enter customer name: ");

String customerName = sc.nextLine();

BankCustomer bankCustomer = **new** BankCustomer(customerName);

**while** (**true**) {

System.***out***.println("Menu:");

System.***out***.println("1. Choose Account Type");

System.***out***.println("2. Deposit");

System.***out***.println("3. Withdraw");

System.***out***.println("4. Check Balance");

System.***out***.println("5. Exit");

System.***out***.print("Choose an option: ");

**int** choice = sc.nextInt();

**switch** (choice) {

**case** 1:

System.***out***.println("Choose Account Type:");

System.***out***.println("1. Savings Account");

System.***out***.println("2. Checking Account");

System.***out***.print("Choose an option: ");

**int** accountChoice = sc.nextInt();

sc.nextLine();

String accountType;

**if** (accountChoice == 1) {

accountType = "savings";

} **else** **if** (accountChoice == 2) {

accountType = "checking";

} **else** {

System.***out***.println("Invalid choice");

**continue**;

}

bankCustomer.setAccountType(accountType);

System.***out***.println("Selected account type: " + accountType);

**break**;

**case** 2:

**if** (bankCustomer.getAccountType() == **null**) {

System.***out***.println("Please choose an account type first.");

**break**;

}

System.***out***.print("Enter deposit amount: ");

**int** depositAmount = sc.nextInt();

sc.nextLine();

bankCustomer.deposit(depositAmount, bankCustomer.getAccountType());

**break**;

**case** 3:

**if** (bankCustomer.getAccountType() == **null**) {

System.***out***.println("Please choose an account type first.");

**break**;

}

System.***out***.print("Enter withdrawal amount: ");

**int** withdrawalAmount = sc.nextInt();

sc.nextLine();

bankCustomer.withdraw(withdrawalAmount, bankCustomer.getAccountType());

**break**;

**case** 4:

**if** (bankCustomer.getAccountType() == **null**) {

System.***out***.println("Please choose an account type first.");

**break**;

}

**int** balance = bankCustomer.getBalance(bankCustomer.getAccountType());

**if** (balance >= 0) {

System.***out***.println("Current balance: " + balance);

}

**break**;

**case** 5:

System.***out***.println("Exited from the bank account successfully !!!");

System.*exit*(0);

**break**;

**default**:

System.***out***.println("Invalid choice");

}

}

}

}

OUTPUT: -





