**Facade Pattern Example: Bank**

**Class: WelcomeToBank**

**package** bank;

**public** **class** WelcomeToBank{

**public** WelcomeToBank() {

System.***out***.println("Welcome to ABC Bank");

System.***out***.println("We are happy to give you your money if we can find it\n");

}

}

**Class: AccountNumberCheck**

**package** bank;

**public** **class** AccountNumberCheck{

**private** **int** accountNumber = 12345678;

**public** **int** getAccountNumber() { **return** accountNumber; }

**public** **boolean** accountActive(**int** acctNumToCheck){

**if**(acctNumToCheck == getAccountNumber()) {

**return** **true**;

} **else** {

**return** **false**;

}

}

}

**Class: FundsCheck**

**package** bank;

**public** **class** FundsCheck {

**private** **double** cashInAccount = 1000.00;

**public** **double** getCashInAccount() { **return** cashInAccount; }

**public** **void** decreaseCashInAccount(**double** cashWithdrawn) { cashInAccount -= cashWithdrawn; }

**public** **void** increaseCashInAccount(**double** cashDeposited) { cashInAccount += cashDeposited; }

**public** **boolean** haveEnoughMoney(**double** cashToWithdrawal) {

**if**(cashToWithdrawal > getCashInAccount()) {

System.***out***.println("Error: You don't have enough money");

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

**return** **false**;

} **else** {

decreaseCashInAccount(cashToWithdrawal);

System.***out***.println("Withdrawal Complete: Current Balance is " + getCashInAccount());

**return** **true**;

}

}

**public** **void** makeDeposit(**double** cashToDeposit) {

increaseCashInAccount(cashToDeposit);

System.***out***.println("Deposit Complete: Current Balance is " + getCashInAccount());

}

}

**Class: SecurityCodeCheck**

**package** bank;

**public** **class** SecurityCodeCheck {

**private** **int** securityCode = 1234;

**public** **int** getSecurityCode() { **return** securityCode; }

**public** **boolean** isCodeCorrect(**int** secCodeToCheck){

**if**(secCodeToCheck == getSecurityCode()) {

**return** **true**;

} **else** {

**return** **false**;

}

}

}

**Class: BankAccountFacade**

**package** bank;

**public** **class** BankAccountFacade {

**private** **int** accountNumber;

**private** **int** securityCode;

AccountNumberCheck acctChecker;

SecurityCodeCheck codeChecker;

FundsCheck fundChecker;

WelcomeToBank bankWelcome;

**public** BankAccountFacade(**int** newAcctNum, **int** newSecCode){

accountNumber = newAcctNum;

securityCode = newSecCode;

bankWelcome = **new** WelcomeToBank();

acctChecker = **new** AccountNumberCheck();

codeChecker = **new** SecurityCodeCheck();

fundChecker = **new** FundsCheck();

}

**public** **int** getAccountNumber() { **return** accountNumber; }

**public** **int** getSecurityCode() { **return** securityCode; }

**public** **void** withdrawCash(**double** cashToGet){

**if**(acctChecker.accountActive(getAccountNumber()) &&

codeChecker.isCodeCorrect(getSecurityCode()) &&

fundChecker.haveEnoughMoney(cashToGet)) {

System.***out***.println("Transaction Complete\n");

} **else** {

System.***out***.println("Transaction Failed\n");

}

}

**public** **void** depositCash(**double** cashToDeposit){

**if**(acctChecker.accountActive(getAccountNumber()) &&

codeChecker.isCodeCorrect(getSecurityCode())) {

fundChecker.makeDeposit(cashToDeposit);

System.***out***.println("Transaction Complete\n");

} **else** {

System.***out***.println("Transaction Failed\n");

}

}

}

**Class: TestBankAccount**

**package** bank;

**public** **class** TestBankAccount {

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

BankAccountFacade accessingBank = **new** BankAccountFacade(12345678, 1234);

accessingBank.withdrawCash(50.00);

accessingBank.withdrawCash(990.00);

}

}

Result:

Welcome to ABC Bank

We are happy to give you your money if we can find it

Withdrawal Complete: Current Balance is 950.0

Transaction Complete

Error: You don't have enough money

Current Balance: 950.0

Transaction Failed