Homework 2 (4 marks)

CS251 – Introduction to Software Engineering, 2021

Each student fills this form for his program and gives it to TA

TA Name: Dina Ezzat Mark: ……..

The questions to answer about each program are included in the following form.

Print and fill this form and bring with you to the discussion.

Student name: Mohamed Saeed Ahmed ID: 20190444 Group: S-16

Which Program (Idea for task 2) did you choose?

- **Bank class**

Which of the following Java / OOP features did you use in your program?

- Inheritance, Aggregation and Polymorphism

1. How many classes did you create and their names?

- One class its name Bank

2. How many different access specifiers did you use and their names?

- 2 access specifier

private: name, address and phone

public: Bank( ), array List accounts and clients, setters, getters, addClient, displayClient and displayAccount.

3. How many Java coding style rules did you use and which ones?

Variable and Object Name: reflects the data it stores.

Method Names: reflects the action it does.

Class and Interface Names: descriptive and first character of each word in the name is capitalized.

Control Statements: Indentation and use of curly braces.

Import Statements.

Variable Scope and Visibility.

4. How many Javadoc tags did you use and which ones?

1- Author

2- param

3- version

4- since

5- return

5. Did you use inheritance? When and why?

No, because the class Bank didn't need inheritance.

6. Did you use method overriding? When and why?

No, because the class Bank didn't need to use it.

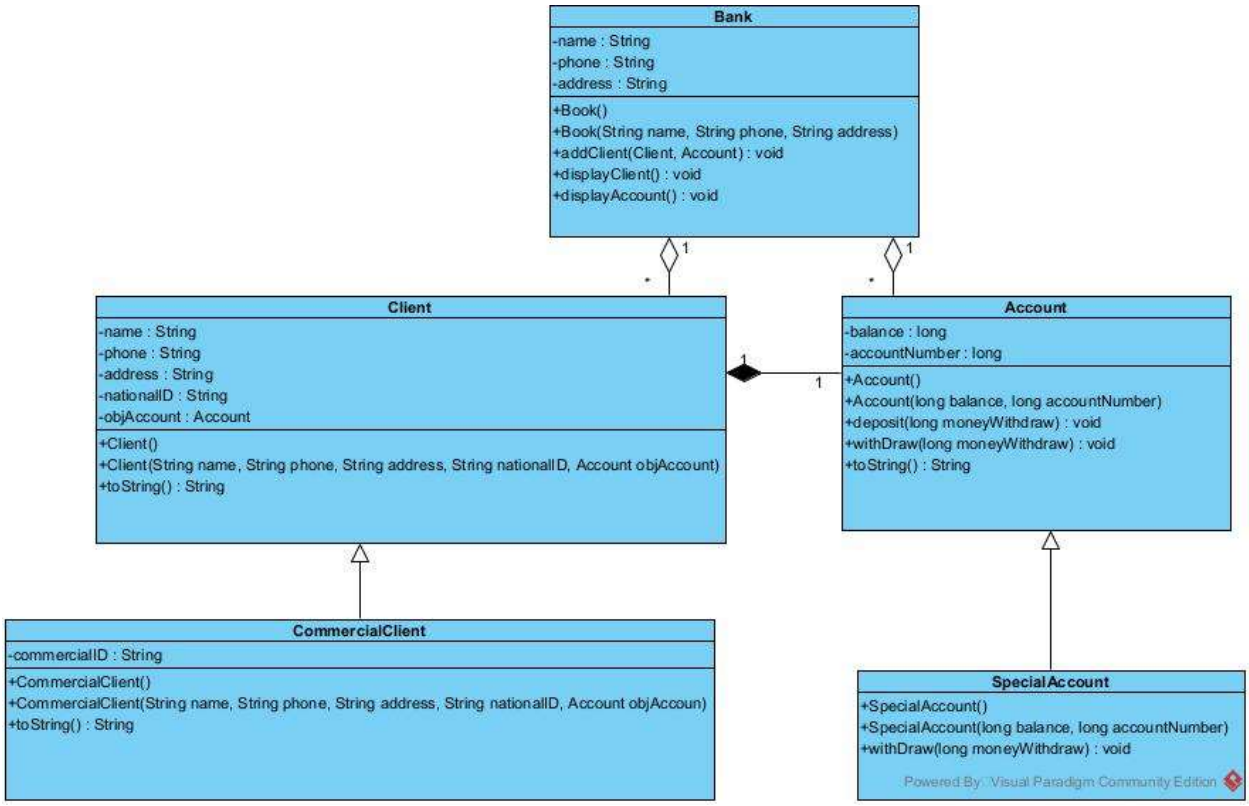
7. Did you use method composition? When and why?

Yes, when I used it in method addClient so can be able to access Client information and Account.

8. Did you use method polymorphism? When and why?

Yes, in the Main class so I can make pass the commercialClient as a parameter of Client class and the specialAccount as a parameter of the Account class and use them in method addClient in class Bank.

Draw in the space below a simple UML class diagram that shows your main classes, their attributes and operations and their interactions with each other.


Bank
-name : String
-phone : String
-address : String
+Book()
+Book(String name, String phone, String address)
+addClient(Client, Account) : void
+displayClient() : void
+displayAccount() : void
1
*
1
*
Client
-name : String
-phone : String
-address : String
-nationalID : String
-objAccount : Account
+Client()
+Client(String name, String phone, String address, String nationalID, Account objAccount)
+toString() : String
1
1
Account
-balance : long
-accountNumber : long
+Account()
+Account(long balance, long accountNumber)
+deposit(long moneyWithdraw) : void
+withDraw(long moneyWithdraw) : void
+toString() : String
CommercialClient
-commercialID : String
+CommercialClient()
+CommercialClient(String name, String phone, String address, String nationalID, Account objAccoun)
+toString() : String
SpecialAccount
+SpecialAccount()
+SpecialAccount(long balance, long accountNumber)
+withDraw(long moneyWithdraw) : void
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