IZMIR UNIVERSITY OF ECONOMICS

FACULTY OF ENGINEERING

SOFTWARE ENGINEERING

SE 115 TERM PROJECT

FINAL REPORT

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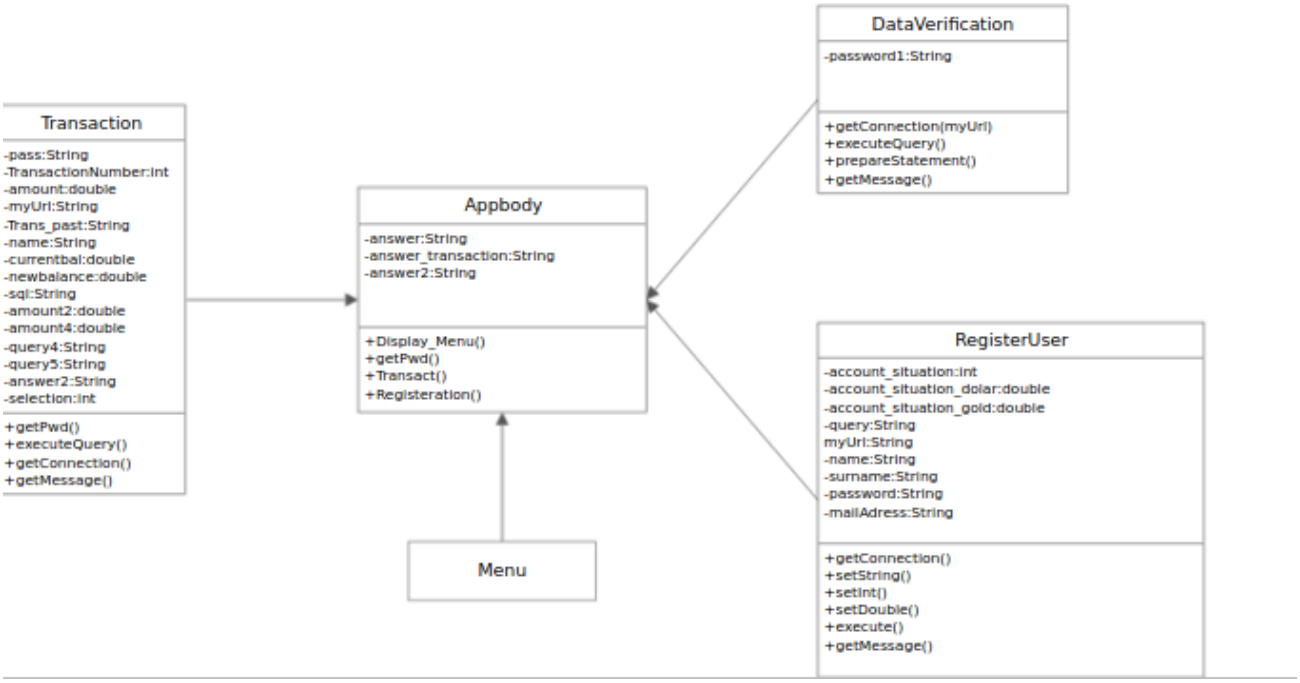
1.PROJECT OUTLINE

As everyone know, banking sector is a huge sector and is very important for today's world economy. Almost every individual bank has an online banking branch. Users can do lots of different transactions. However, these online branches are either very complicated or can not serve to the customer wishes. Besides, at a considerable amount of situation users have to visit the real branch and wait in line for a long time. At that point, the importance of this project is understood. The aim of this project is to implement a digital bank for customers who does not want to use any ATM or bank in their real life. Users who use this app do not have to visit anywhere. Also, every user can use the app easly due to the simple user screen.

2. PROVIDED SERVICES

1) Putting money into the bank account
2) Withdraw money from the account
3) Checking the account balance
4) Sending money to someone who uses the application
5) Transiting the deposits to the gold or foreign currency
6) Paying bills
7) Displaying the previous transaction
8) Taking out loan if the user's financial situation is appropriate

3. UML CLASS DIAGRAM



4. EXPLANATION OF CODES

4.1 AppBody Class

```
import java.io.IOException;
import java.util.Scanner;
import java.sql.*;
public class AppBody {
    public static void main(String[] args) throws IOException {
        System.out.println("\n----------------------WELCOME TO THE
SYSTEM----------------------\n\n");
        Scanner input=new Scanner(System.in);
        System.out.println("Do you have an account?");
        System.out.print("Answer(Please enter yes or no) :");
        String answer=input.next();
        switch(answer){
            case "yes":{
                if (DataVerification.Verify() == true) {
```

```
                    System.out.println("Account verified\nYou are
connecting to system...\n\n");
                    while (true) {
                        System.out.println("\nDo you want to make a
transaction?");
                        System.out.println("Answer(Please enter yes or no)
:");
                        String answer_transaction = input.next();
                        if(answer_transaction.equals("yes")) {
                            String pwd = DataVerification.password1;
                            Menu.Display_Menu();
                            Transaction.getPwd(pwd);
                            Transaction.Transact();
                        }
                        else if(answer_transaction.equals("no")) {
                            System.out.println("Thank you for
visitation ...");
                            break;
                        }
                        else{
                            System.out.println("Invalid enterence ...");
                            break;
                        }
                    }
                    break;
                }
```

In this part, the system examine whether the user has an account or not.If the user has an account,the system verify the password and if the password is wrong,the system gives a simple warning with “Invalid enterence”.However,if the password is true, then the user connect with the system,after that the system asks the user about making a transaction,then if the user wants to make a transaction the system proceeds,if not;the system says:”Thank you for visitation.”.

```
                else{
                    System.out.println("Account is not verifired\nPlease
enter later...");
                    break;
                }
            }
            case "no":{
                System.out.println("Do you want to enroll the system?");
                System.out.print("Answer(Please enter yes or no) :");
                String answer2=input.next();
                switch(answer2){
                    case "no":{
                        System.out.println("Thank you to visit our
system");
                        break;
                    }
                    case "yes":{
                        RegisterUser.Registeration();
                        System.out.println("Registeration is successful");
                        break;
                    }
                    default: System.out.println("Invalid answer...");
                }
            }
        }
    }
```

```
}
```

In addition, if the user has not an account,the system asks the user whether user wants to enroll the system or not,if the user wants to register,the system can create an account.However, if the user does not want to register,the system says “Thank you to visit our system.”.

4.2 Transaction Class

```
Scanner input = new Scanner(System.in);
System.out.print("Please enter the transaction number :");
int TransactionNumber = input.nextInt();
switch (TransactionNumber) {
    case 1: {
        System.out.print("Please enter the amount :");
        double amount = input.nextDouble();
```

In that part,the system offer a menu to the user which has 8 parts;there exist 8 options.

Case 1:
In case 1, the system offers the user to putting money into the bank account.

Case 2:
In case 2,the system offers to withdrawing money from the user’s bank account.

Case 3:
In case 3,the system offers to checking the user’s bank account balance.

Case 4:
In case 4,the system offers to sending money to someone’s bank account.

Case 5:
In case 5,the system offers to transitting TL to Dolar or Gold.

Case 6:
In case 6, the system offers to paying the user’s bills.

Case 7:
In case 7,the system offers to displaying the previous transactions.

Case 8:
In case 8, the user can take a loan.

5. APPENDIX (SOURCE CODES)

5.1 . FIRST CLASS: AppBody.java

```
import java.io.IOException;

import java.util.Scanner;

import java.sql.*;
public class AppBody {
    public static void main(String[] args) throws IOException {
        System.out.println("\n-----------------------WELCOME TO THE
SYSTEM-----------------------\n\n");
        Scanner input=new Scanner(System.in);
        System.out.println("Do you have an account?");
        System.out.print("Answer(Please enter yes or no) :");
        String answer=input.next();
        switch(answer){
            case "yes":{
                if (DataVerification.Verify() == true) {
                    System.out.println("Account verified\nYou are
connecting to system...\n\n");
                    while (true) {
                        System.out.println("\nDo you want to make a
transaction?");
                        System.out.println("Answer(Please enter yes or no)
:");
                        String answer_transaction = input.next();
                        if(answer_transaction.equals("yes")) {
                            String pwd = DataVerification.password1;
                            Menu.Display_Menu();
                            Transaction.getPwd(pwd);
                            Transaction.Transact();
                        }
                        else if(answer_transaction.equals("no")) {
                            System.out.println("Thank you for
visitation ...");
                            break;
                        }
                        else{
                            System.out.println("Invalid enterence ...");
                            break;
                        }
                    }
                    break;
                }
                else{
                    System.out.println("Account is not verifired\nPlease
enter later...");
                    break;
                }
            }
            case "no":{
                System.out.println("Do you want to enroll the system?");
                System.out.print("Answer(Please enter yes or no) :");
                String answer2=input.next();
```

```
                switch(answer2){
                    case "no":{
                        System.out.println("Thank you to visit our
system");
                        break;
                    }
                    case "yes":{
                        RegisterUser.Registeration();
                        System.out.println("Registeration is successful");
                        break;
                    }
                    default: System.out.println("Invalid answer...");
                }
            }
        }
    }
}
```

5.2 . SECOND CLASS :Transaction.java

```
import java.io.*;
import java.util.Scanner;
import java.sql.*;
public class Transaction {
    private static String pass;
    public static void getPwd(String pwd) {
        pass = pwd;
    }
    public static void Transact() throws IOException {
        Scanner input = new Scanner(System.in);
        System.out.print("Please enter the transaction number :");
        int TransactionNumber = input.nextInt();
        switch (TransactionNumber) {
            case 1: {
                System.out.print("Please enter the amount :");
                double amount = input.nextDouble();
                try {
                    String myUrl =
"jdbc:mysql://localhost/UserRegisteration";
                    Class.forName("com.mysql.jdbc.Driver");
                    Connection Transaction1 =
DriverManager.getConnection(myUrl, "root", "");
                    Statement smt = Transaction1.createStatement();
                    String q = "Select BankAccount,user_name from UserInfo
where password = '" + pass + "';";
                    ResultSet rs = smt.executeQuery(q);
                    if (rs.next()) {
                        String Trans_past="Putting money into the bank
account\n";
                        String name=rs.getString("user_name");
                        File file = new File(name+".txt");
                        if (!file.exists()) {
                            file.createNewFile();
                        }
                        FileWriter fileWriter = new FileWriter(file, true);
                        BufferedWriter bWriter = new
BufferedWriter(fileWriter);
```

```
                        bWriter.write(Trans_past);
                        bWriter.close();
                        double currentbal = rs.getDouble("BankAccount");
                        double newbalance = currentbal + amount;
                        String sql = "update UserInfo SET BankAccount =" +
newbalance + " where password ='" + pass + "' ;";
                        smt.executeUpdate(sql);
                    }
                    Transaction1.close();
                } catch (Exception e) {
                    System.out.println("There is an error\nPlease try later
...");
                    System.out.println(e);
                }
                System.out.println("Transaction is successful");
                break;
            }
            case 2: {
                System.out.print("Please enter the amount :");
                double amount2 = input.nextDouble();
                try {
                    String myUrl =
"jdbc:mysql://localhost/UserRegisteration";
                    Class.forName("com.mysql.jdbc.Driver");
                    Connection Transaction2 =
DriverManager.getConnection(myUrl, "root", "");
                    Statement smt = Transaction2.createStatement();
                    String query = "Select BankAccount,user_name from
UserInfo where password = '" + pass + "';";
                    ResultSet rs = smt.executeQuery(query);
                    if (rs.next()) {
                        String Trans_past="Withdraw money from the bank
account\n";
                        String name=rs.getString("user_name");
                        File file = new File(name+".txt");
                        if (!file.exists()) {
                            file.createNewFile();
                        }
                        FileWriter fileWriter = new FileWriter(file, true);
                        BufferedWriter bWriter = new
BufferedWriter(fileWriter);
                        bWriter.write(Trans_past);
                        bWriter.close();
                        double currentbal = rs.getDouble("BankAccount");
                        double newbalance = currentbal - amount2;
                        String sql = "update UserInfo SET BankAccount =" +
newbalance + " where password ='" + pass + "' ;";
                        smt.executeUpdate(sql);
                    }
                    Transaction2.close();
                } catch (Exception e) {
                    System.out.println("There is an error\nPlease try later
...");
                    System.out.println(e);
                }
                System.out.println("Transaction is successful");
                break;
            }
            case 3: {
                try {
```

```
                    Class.forName("com.mysql.jdbc.Driver");
                    Connection Transaction3 =
DriverManager.getConnection("jdbc:mysql://localhost:3306/UserRegisteration"
, "root", "");
                    Statement smt = Transaction3.createStatement();
                    String q = "Select user_name, BankAccount ,
Dolar_Account , Gold_Account from UserInfo where password = '" + pass +
"';";
                    ResultSet rs = smt.executeQuery(q);
                    if (rs.next()) {
                        String Trans_past="Checking the account balance\n";
                        String name=rs.getString("user_name");
                        File file = new File(name+".txt");
                        if (!file.exists()) {
                            file.createNewFile();
                        }
                        FileWriter fileWriter = new FileWriter(file, true);
                        BufferedWriter bWriter = new
BufferedWriter(fileWriter);
                        bWriter.write(Trans_past);
                        bWriter.close();
                        System.out.println("Your TL
account     :"+rs.getDouble("BankAccount"));
                        System.out.println("Your Dolar
account  :"+rs.getDouble("Dolar_Account"));
                        System.out.println("Your Gold
account   :"+rs.getDouble("Gold_Account"));
                    }
                    Transaction3.close();
                } catch (Exception e) {
                    System.out.println("There is an error\nPlease try later
...");
                    System.out.println(e);
                }
                break;
            }
            case 4: {
                System.out.println("Please enter the name which you send
money     :");
                String name_Sending = input.next();
                System.out.println("Please enter the surname which you send
money  :");
                String surname_sending = input.next();
                System.out.println("Please enter the amount   :");
                double amount4 = input.nextDouble();
                try {
                    String myUrl =
"jdbc:mysql://localhost/UserRegisteration";
                    Class.forName("com.mysql.jdbc.Driver");
                    Connection Transaction4 =
DriverManager.getConnection(myUrl, "root", "");
                    Statement smt = Transaction4.createStatement();
                    String query4 = "Select user_name, BankAccount from
UserInfo where password = '" + pass + "';";
                    ResultSet rs = smt.executeQuery(query4);
                    if (rs.next()) {
                        String Trans_past="Sending money\n";
                        String name=rs.getString("user_name");
                        File file = new File(name+".txt");
                        if (!file.exists()) {
```

```
                        file.createNewFile();
                    }
                    FileWriter fileWriter = new FileWriter(file, true);
                    BufferedWriter bWriter = new
BufferedWriter(fileWriter);
                    bWriter.write(Trans_past);
                    bWriter.close();
                    double currentbal = rs.getDouble("BankAccount");
                    double newbalance = currentbal - amount4;
                    String sql = "update UserInfo SET BankAccount =" +
newbalance + " where password ='" + pass + "' ;";
                    smt.executeUpdate(sql);
                }
                Transaction4.close();
            } catch (Exception e) {
                System.out.println("There is an error\nPlease try later
...");
                System.out.println(e);
            }
            try {
                String myUrl =
"jdbc:mysql://localhost/UserRegisteration";
                Class.forName("com.mysql.jdbc.Driver");
                Connection Transaction4_2 =
DriverManager.getConnection(myUrl, "root", "");
                Statement smt = Transaction4_2.createStatement();
                String q = "Select BankAccount from UserInfo where
user_name = '" + name_Sending + "' and user_surname= '" + surname_sending +
"';";
                ResultSet rs = smt.executeQuery(q);
                if (rs.next()) {
                    double currentbal = rs.getDouble("BankAccount");
                    double newbalance = currentbal + amount4;
                    String sql = "update UserInfo SET BankAccount =" +
newbalance + " where user_name = '" + name_Sending + "' and user_surname=
'" + surname_sending + "';";
                    smt.executeUpdate(sql);
                }
                Transaction4_2.close();
            } catch (Exception e) {
                System.out.println("There is an error\nPlease try later
...");
                System.out.println(e);
            }
            System.out.println("Transaction is successful");
            break;
        }
        case 5: {
            System.out.println("Dolar :1");
            System.out.println("Gold  :2");
            int selection_transit=input.nextInt();
            if(selection_transit==1) {
                System.out.println("Enter the amount that you want to
transit dolar :");
                double amount_change_dolar = input.nextDouble();
                double amount_change_dolar2 = amount_change_dolar;
                try {
                    String myUrl =
"jdbc:mysql://localhost/UserRegisteration";
                    Class.forName("com.mysql.jdbc.Driver");
```

```
                        Connection Transaction5 =
DriverManager.getConnection(myUrl, "root", "");
                        Statement smt = Transaction5.createStatement();
                        String query4 = "Select user_name, BankAccount from
UserInfo where password = '" + pass + "';";
                        ResultSet rs = smt.executeQuery(query4);
                        if (rs.next()) {
                            double currentbal =
rs.getDouble("BankAccount");
                            double newbalance = currentbal -
amount_change_dolar;
                            String sql = "update UserInfo SET BankAccount
=" + newbalance + " where password ='" + pass + "' ;";
                            smt.executeUpdate(sql);
                        }
                        Transaction5.close();
                    } catch (Exception e) {
                        System.out.println("There is an error\nPlease try
later ...");
                        System.out.println(e);
                    }
                    try {
                        String myUrl =
"jdbc:mysql://localhost/UserRegisteration";
                        Class.forName("com.mysql.jdbc.Driver");
                        Connection Transaction5_2 =
DriverManager.getConnection(myUrl, "root", "");
                        Statement smt2 = Transaction5_2.createStatement();
                        String query5 = "Select user_name, Dolar_Account
from UserInfo where password = '" + pass + "';";
                        ResultSet rs2 = smt2.executeQuery(query5);
                        if (rs2.next()) {
                            String Trans_past="Transiting the deposit to
the dolar\n";
                            String name=rs2.getString("user_name");
                            File file = new File(name+".txt");
                            if (!file.exists()) {
                                file.createNewFile();
                            }
                            FileWriter fileWriter = new FileWriter(file,
true);
                            BufferedWriter bWriter = new
BufferedWriter(fileWriter);
                            bWriter.write(Trans_past);
                            bWriter.close();
                            double currentbal_dolar =
rs2.getDouble("Dolar_Account");
                            double newbalance_dolar = currentbal_dolar +
amount_change_dolar2 / 5.71;
                            String sql2 = "update UserInfo SET
Dolar_Account =" + newbalance_dolar + " where password ='" + pass + "' ;";
                            smt2.executeUpdate(sql2);
                        }
                        Transaction5_2.close();
                    } catch (Exception e) {
                        System.out.println("There is an error\nPlease try
later ...");
                        System.out.println(e);
                    }
                    System.out.println("Transaction is successful");
```

```
                }
                else if(selection_transit==2){
                    System.out.println("Enter the amount that you want to
transit gold :");
                    double amount_change_gold = input.nextDouble();
                    double amount_change_gold2 = amount_change_gold;
                    try {
                        String myUrl =
"jdbc:mysql://localhost/UserRegisteration";
                        Class.forName("com.mysql.jdbc.Driver");
                        Connection Transaction5_3 =
DriverManager.getConnection(myUrl, "root", "");
                        Statement smt = Transaction5_3.createStatement();
                        String query4 = "Select BankAccount from UserInfo
where password = '" + pass + "';";
                        ResultSet rs = smt.executeQuery(query4);
                        if (rs.next()) {
                            double currentbal =
rs.getDouble("BankAccount");
                            double newbalance = currentbal -
amount_change_gold;
                            String sql = "update UserInfo SET BankAccount
=" + newbalance + " where password ='" + pass + "' ;";
                            smt.executeUpdate(sql);
                        }
                        Transaction5_3.close();
                    } catch (Exception e) {
                        System.out.println("There is an error\nPlease try
later ...");
                        System.out.println(e);
                    }
                    try {
                        String myUrl =
"jdbc:mysql://localhost/UserRegisteration";
                        Class.forName("com.mysql.jdbc.Driver");
                        Connection Transaction5_4 =
DriverManager.getConnection(myUrl, "root", "");
                        Statement smt2 = Transaction5_4.createStatement();
                        String query5 = "Select user_name, Gold_Account
from UserInfo where password = '" + pass + "';";
                        ResultSet rs2 = smt2.executeQuery(query5);
                        if (rs2.next()) {
                            String Trans_past="Transiting the deposit to
the gold\n";
                            String name=rs2.getString("user_name");
                            File file = new File(name+".txt");
                            if (!file.exists()) {
                                file.createNewFile();
                            }
                            FileWriter fileWriter = new FileWriter(file,
true);
                            BufferedWriter bWriter = new
BufferedWriter(fileWriter);
                            bWriter.write(Trans_past);
                            bWriter.close();
                            double currentbal_gold =
rs2.getDouble("Gold_Account");
                            double newbalance_gold = currentbal_gold +
amount_change_gold2 / 280;
```

```
                            String sql2 = "update UserInfo SET Gold_Account
=" + newbalance_gold + " where password ='" + pass + "' ;";
                            smt2.executeUpdate(sql2);
                        }
                        Transaction5_4.close();
                    } catch (Exception e) {
                        System.out.println("There is an error\nPlease try
later ...");
                        System.out.println(e);
                    }
                    System.out.println("Transaction is successful");
                }
                else{
                    System.out.println("Invalid enterence ...");
                }
                break;
            }
            case 6: {
                System.out.println("Electric bill  :1");
                System.out.println("Water bill     :2");
                System.out.println("Internet bill  :3");
                System.out.println("Please enter the number the one you
want to pay  :");
                int selection = input.nextInt();
                if (selection == 1) {
                    double Electric_bill = Math.random() * 60 + 200;
                    System.out.println("Your electric bill :" +
Electric_bill);
                    System.out.println("Do you want to pay?");
                    System.out.println("Please enter yes or no  :");
                    String answer = input.next();
                    switch (answer) {
                        case "yes": {
                            try {
                                String myUrl =
"jdbc:mysql://localhost/UserRegisteration";
                                Class.forName("com.mysql.jdbc.Driver");
                                Connection Transaction6 =
DriverManager.getConnection(myUrl, "root", "");
                                Statement smt =
Transaction6.createStatement();
                                String query = "Select user_name,
BankAccount from UserInfo where password = '" + pass + "';";
                                ResultSet rs = smt.executeQuery(query);
                                if (rs.next()) {
                                    String Trans_past="Paying electric
bill\n";

                                    String name=rs.getString("user_name");
                                    File file = new File(name+".txt");
                                    if (!file.exists()) {
                                        file.createNewFile();
                                    }
                                    FileWriter fileWriter = new
FileWriter(file, true);
                                    BufferedWriter bWriter = new
BufferedWriter(fileWriter);
                                    bWriter.write(Trans_past);
                                    bWriter.close();
                                    double currentbal =
rs.getDouble("BankAccount");
```

```
                                    double newbalance = currentbal -
Electric_bill;
                                    String sql = "update UserInfo SET
BankAccount =" + newbalance + " where password ='" + pass + "' ;";
                                    smt.executeUpdate(sql);
                                }
                                Transaction6.close();
                            } catch (Exception e) {
                                System.out.println("There is an error\
nPlease try later ...");
                                System.out.println(e);
                            }
                            System.out.println("Payment is successful");
                            break;
                        }
                        case "no": {
                            System.out.println("Thank you for
visitation ...");
                            break;
                        }
                        default: {
                            System.out.println("Invalid enterence ...");
                            break;
                        }
                    }
                } else if (selection == 2) {
                    double Water_bill = Math.random() * 30 + 150;
                    System.out.println("Your water bill :" + Water_bill);
                    System.out.println("Do you want to pay?");
                    System.out.println("Please enter yes or no  :");
                    String answer2 = input.next();
                    switch (answer2) {
                        case "yes": {
                            try {
                                String myUrl =
"jdbc:mysql://localhost/UserRegisteration";
                                Class.forName("com.mysql.jdbc.Driver");
                                Connection Transaction6_1 =
DriverManager.getConnection(myUrl, "root", "");
                                Statement smt =
Transaction6_1.createStatement();
                                String query = "Select user_name,
BankAccount from UserInfo where password = '" + pass + "';";
                                ResultSet rs = smt.executeQuery(query);
                                if (rs.next()) {
                                    String Trans_past="Paying water bill\
n";

                                    String name=rs.getString("user_name");
                                    File file = new File(name+".txt");
                                    if (!file.exists()) {
                                        file.createNewFile();
                                    }
                                    FileWriter fileWriter = new
FileWriter(file, true);
                                    BufferedWriter bWriter = new
BufferedWriter(fileWriter);
                                    bWriter.write(Trans_past);
                                    bWriter.close();
                                    double currentbal =
rs.getDouble("BankAccount");
```

```
                                    double newbalance = currentbal -
Water_bill;
                                    String sql = "update UserInfo SET
BankAccount =" + newbalance + " where password ='" + pass + "' ;";
                                    smt.executeUpdate(sql);
                                }
                                Transaction6_1.close();
                            } catch (Exception e) {
                                System.out.println(e);
                            }
                            System.out.println("Payment is successful");
                            break;
                        }
                        case "no": {
                            System.out.println("Thank you for
visitation ...");
                            break;
                        }
                        default: {
                            System.out.println("Invalid enterence ...");
                            break;
                        }
                    }
                } else if (selection == 3) {
                    double internet_bill = Math.random() * 30 + 100;
                    System.out.println("Your internet bill :" +
internet_bill);
                    System.out.println("Do you want to pay?");
                    System.out.println("Please enter yes or no  :");
                    String answer2 = input.next();
                    switch (answer2) {
                        case "yes": {
                            try {
                                String myUrl =
"jdbc:mysql://localhost/UserRegisteration";
                                Class.forName("com.mysql.jdbc.Driver");
                                Connection Transaction6_2 =
DriverManager.getConnection(myUrl, "root", "");
                                Statement smt =
Transaction6_2.createStatement();
                                String query = "Select user_name,
BankAccount from UserInfo where password = '" + pass + "';";
                                ResultSet rs = smt.executeQuery(query);
                                if (rs.next()) {
                                    String Trans_past="Paying internet
bill\n";

                                    String name=rs.getString("user_name");
                                    File file = new File(name+".txt");
                                    if (!file.exists()) {
                                        file.createNewFile();
                                    }
                                    FileWriter fileWriter = new
FileWriter(file, true);
                                    BufferedWriter bWriter = new
BufferedWriter(fileWriter);
                                    bWriter.write(Trans_past);
                                    bWriter.close();
                                    double currentbal =
rs.getDouble("BankAccount");
```

```
                                    double newbalance = currentbal -
internet_bill;
                                    String sql = "update UserInfo SET
BankAccount =" + newbalance + " where password ='" + pass + "' ;";
                                    smt.executeUpdate(sql);
                                }
                                Transaction6_2.close();
                            } catch (Exception e) {
                                System.out.println(e);
                            }
                            System.out.println("Payment is successful");
                            break;
                        }
                        case "no": {
                            System.out.println("Thank you for
visitation ...");
                            break;
                        }
                        default: {
                            System.out.println("Invalid enterence ...");
                            break;
                        }
                    }
                }
                break;
            }
            case 8: {
                try {
                    String myUrl =
"jdbc:mysql://localhost/UserRegisteration";
                    Class.forName("com.mysql.jdbc.Driver");
                    Connection Transaction8 =
DriverManager.getConnection(myUrl, "root", "");
                    Statement smt = Transaction8.createStatement();
                    String query4 = "Select BankAccount from UserInfo where
password = '" + pass + "';";
                    ResultSet rs = smt.executeQuery(query4);
                    if (rs.next()) {
                        double currentbal = rs.getDouble("BankAccount");
                        if(currentbal>2000) {
                            System.out.println("You can take a 1000 TL
loan.");
                            System.out.println("Do you want to take?");
                            System.out.println("Answer(please enter yes or
no)  :");
                            String answer_loan = input.next();
                            switch (answer_loan) {
                                case "yes": {
                                    try {
                                        String myUrl1 =
"jdbc:mysql://localhost/UserRegisteration";

Class.forName("com.mysql.jdbc.Driver");
                                        Connection Transaction8_1 =
DriverManager.getConnection(myUrl1, "root", "");
                                        Statement smt1 =
Transaction8_1.createStatement();
                                        String query = "Select user_name,
BankAccount from UserInfo where password = '" + pass + "';";
```

```
                                        ResultSet rs1 =
smt.executeQuery(query);

                                        if (rs1.next()) {
                                            String Trans_past="Taking a
loan\n";

                                            String
name=rs1.getString("user_name");

                                            File file = new
File(name+".txt");

                                            if (!file.exists()) {
                                                file.createNewFile();
                                            }
                                            FileWriter fileWriter = new
FileWriter(file, true);

                                            BufferedWriter bWriter = new
BufferedWriter(fileWriter);

                                            bWriter.write(Trans_past);
                                            bWriter.close();
                                            double currentbal1 =
rs1.getDouble("BankAccount");

                                            double newbalance = currentbal
+ 1000;

                                            String sql = "update UserInfo
SET BankAccount =" + newbalance + " where password ='" + pass + "' ;";
                                            smt1.executeUpdate(sql);
                                        }
                                        Transaction8_1.close();
                                    } catch (Exception e) {
                                        System.out.println(e);
                                    }
                                    Transaction8.close();
                                    System.out.println("Transaction is
successful");

                                    break;
                                }
                                case "no": {
                                    System.out.println("Thank you for
visitation ...");

                                    break;
                                }
                            }
                        }
                        else{
                            System.out.println("Your credit is not
appropriate to take a loan...");
                            break;
                        }
                    }
                } catch (Exception e) {
                    System.out.println(e);
                }
                break;
            }
            case 7: {
                try {
                    String myUrl1 =
"jdbc:mysql://localhost/UserRegisteration";
                    Class.forName("com.mysql.jdbc.Driver");
                    Connection Transaction8_1 =
DriverManager.getConnection(myUrl1, "root", "");
```

```
                    Statement smt1 = Transaction8_1.createStatement();
                    String query = "Select user_name, BankAccount from
UserInfo where password = '" + pass + "';";
                    ResultSet rs1 = smt1.executeQuery(query);
                    if (rs1.next()) {
                        String name=rs1.getString("user_name");
                        File file = new File(name+".txt");
                        if (!file.exists()) {
                            file.createNewFile();
                        }
                        FileReader fileReader = new FileReader(file);
                        String line;
                        BufferedReader br = new BufferedReader(fileReader);
                        while ((line = br.readLine()) != null) {
                            System.out.println(line);
                        }
                        br.close();
                    }
                    Transaction8_1.close();
                } catch (Exception e) {
                    System.out.println(e);
                }
                break;
            }
        }
    }
}
```

5.3 THIRD CLASS: DataVerification.java

```
import java.sql.*;
import java.util.Scanner;
public class DataVerification{
    public static String password1;
    public static boolean Verify() {
        Scanner input=new Scanner(System.in);
        System.out.println("Enter your password :");
        password1 = input.next();
        boolean status=false;
        try {
            String myUrl = "jdbc:mysql://localhost/UserRegisteration";
            Class.forName("com.mysql.jdbc.Driver");
            Connection Verification = DriverManager.getConnection(myUrl,
"root", "");
            PreparedStatement ps=Verification.prepareStatement("Select *
from UserInfo where password =?");
            ps.setString(1, password1);
            ResultSet rs=ps.executeQuery();
            status=rs.next();
            Verification.close();
        } catch (Exception e) {
            System.err.println("There is an error\nPlease try later ...");
            System.err.println(e.getMessage());
        }
        return status;
    }
}
```

5.4 FOURTH CLASS: RegisterUser.java

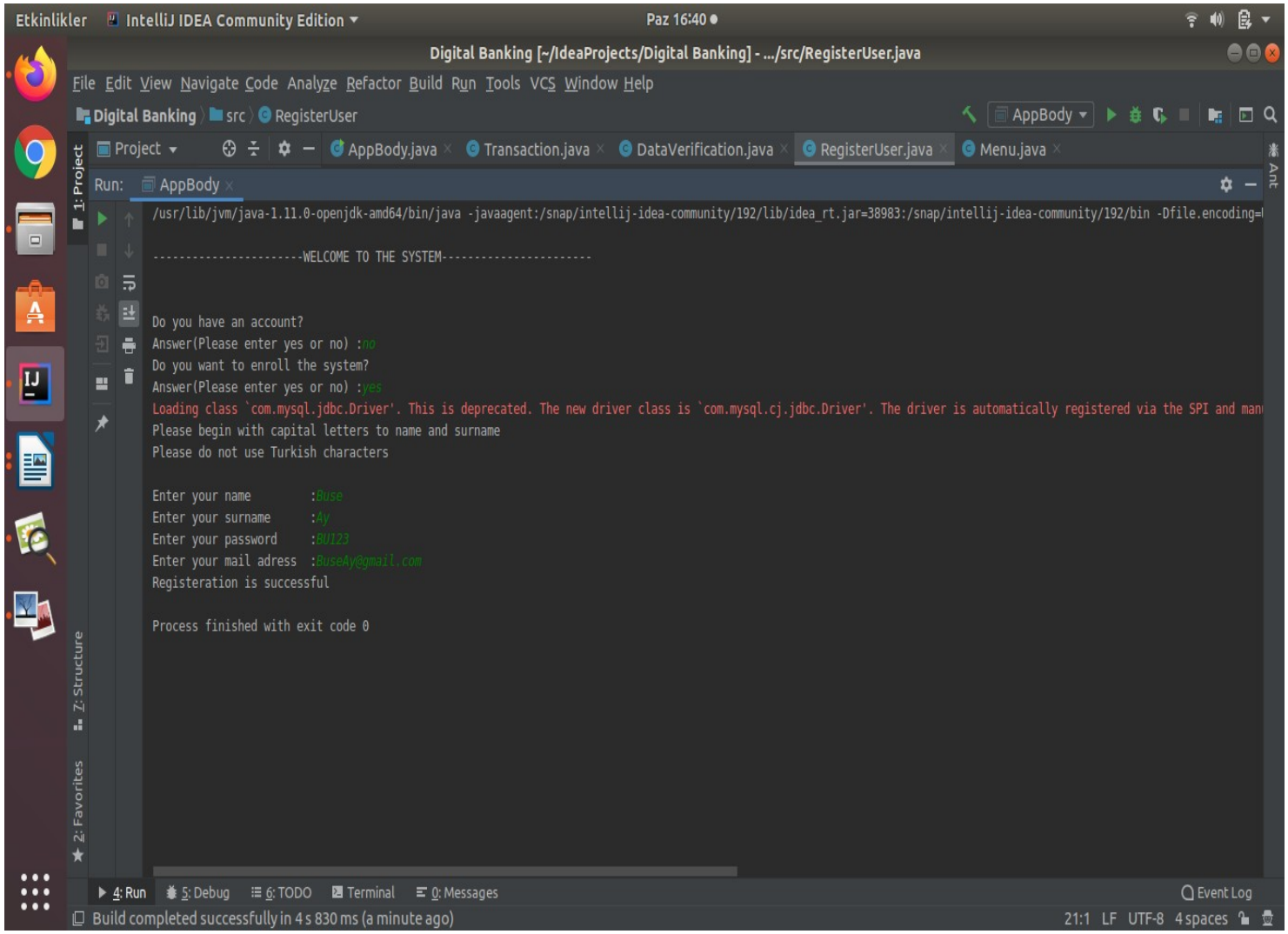
```
import java.sql.*;
import java.util.Scanner;
public class RegisterUser
{
    public static int account_situation;
    public static double account_situation_dolar;
    public static double account_situation_gold;
    public static void Registeration()
    {
        Scanner input=new Scanner(System.in);
        try
        {
            String myUrl = "jdbc:mysql://localhost/UserRegisteration";
            Class.forName("com.mysql.jdbc.Driver");
            Connection Register = DriverManager.getConnection(myUrl,
"root", "");
            String query = " insert into UserInfo
(user_name,user_surname,password,mailAdress,BankAccount,Dolar_Account,Gold_
Account)"
                    + " values (?, ?, ?, ?, ?, ?, ?)";
            System.out.println("Please begin with capital letters to name
and surname");
            System.out.println("Please do not use turkish characters\n");
            System.out.print("Enter your name         :");
            String name=input.next();
            System.out.print("Enter your surname      :");
            String surname=input.next();
            System.out.print("Enter your password     :");
            String password=input.next();
            System.out.print("Enter your mail adress  :");
            String mailAdress=input.next();
            account_situation=0;
            account_situation_dolar=0;
            account_situation_gold=0;
            PreparedStatement NewAccount =
Register.prepareStatement(query);
            NewAccount.setString (1, name);
            NewAccount.setString (2,surname);
            NewAccount.setString (3, password);
            NewAccount.setString(4, mailAdress);
            NewAccount.setInt(5, account_situation);
            NewAccount.setDouble(6, account_situation_dolar);
            NewAccount.setDouble(7, account_situation_gold);
            NewAccount.execute();
            Register.close();
        }
        catch (Exception e)
        {
            System.err.println("There is an error\nPlease try later ...");
            System.err.println(e.getMessage());
        }
    }
}
```

5.5 FIFTH CLASS: Menu.java

```
public class Menu {
    public static void Display_Menu(){
        System.out.println("THESE ARE THE SERVISES THAT ARE PROVIDED :");
        System.out.println("1-Put money into your bank account");
        System.out.println("2-Withdraw money from your bank account");
        System.out.println("3-Check your account balance");
        System.out.println("4-Send money(just to the app users) ");
        System.out.println("5-Transit your deposit to the gold or a foreign
currency");
        System.out.println("6-Pay your bills");
        System.out.println("7-Display your previous transactions");
        System.out.println("8-Take out loan");
        System.out.println("\n");
    }
}
```

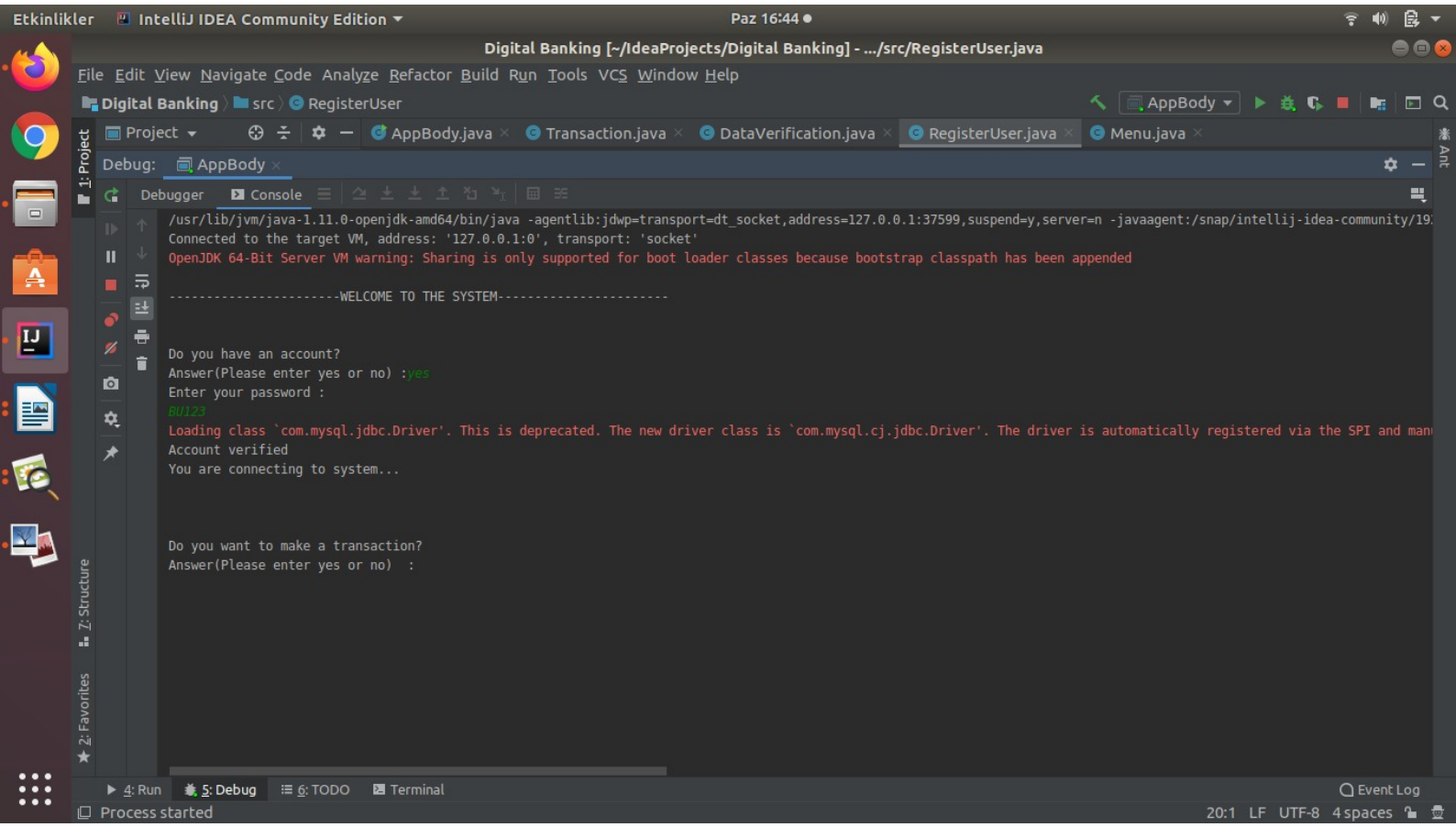
6. APPENDIX(OUTPUTS)

6.1 .Registeration Part

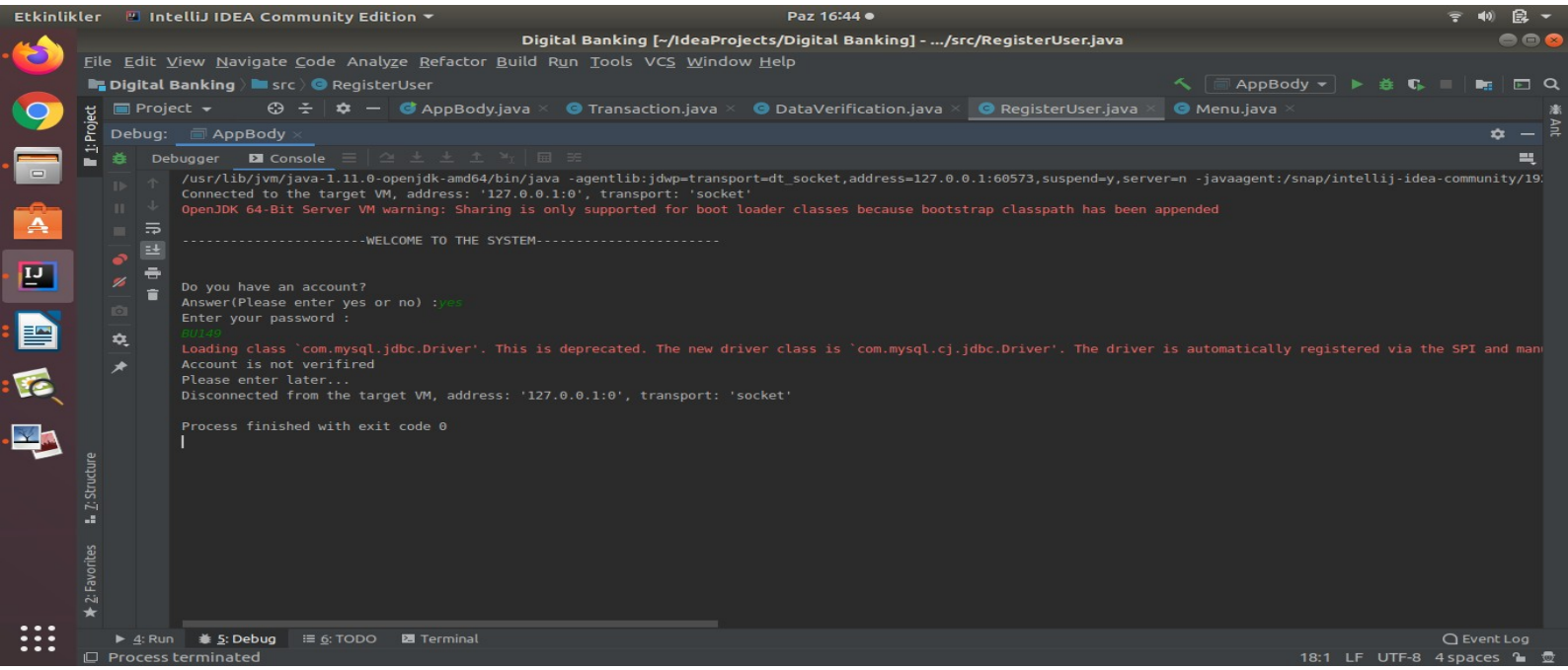


6.2 .Verification Part

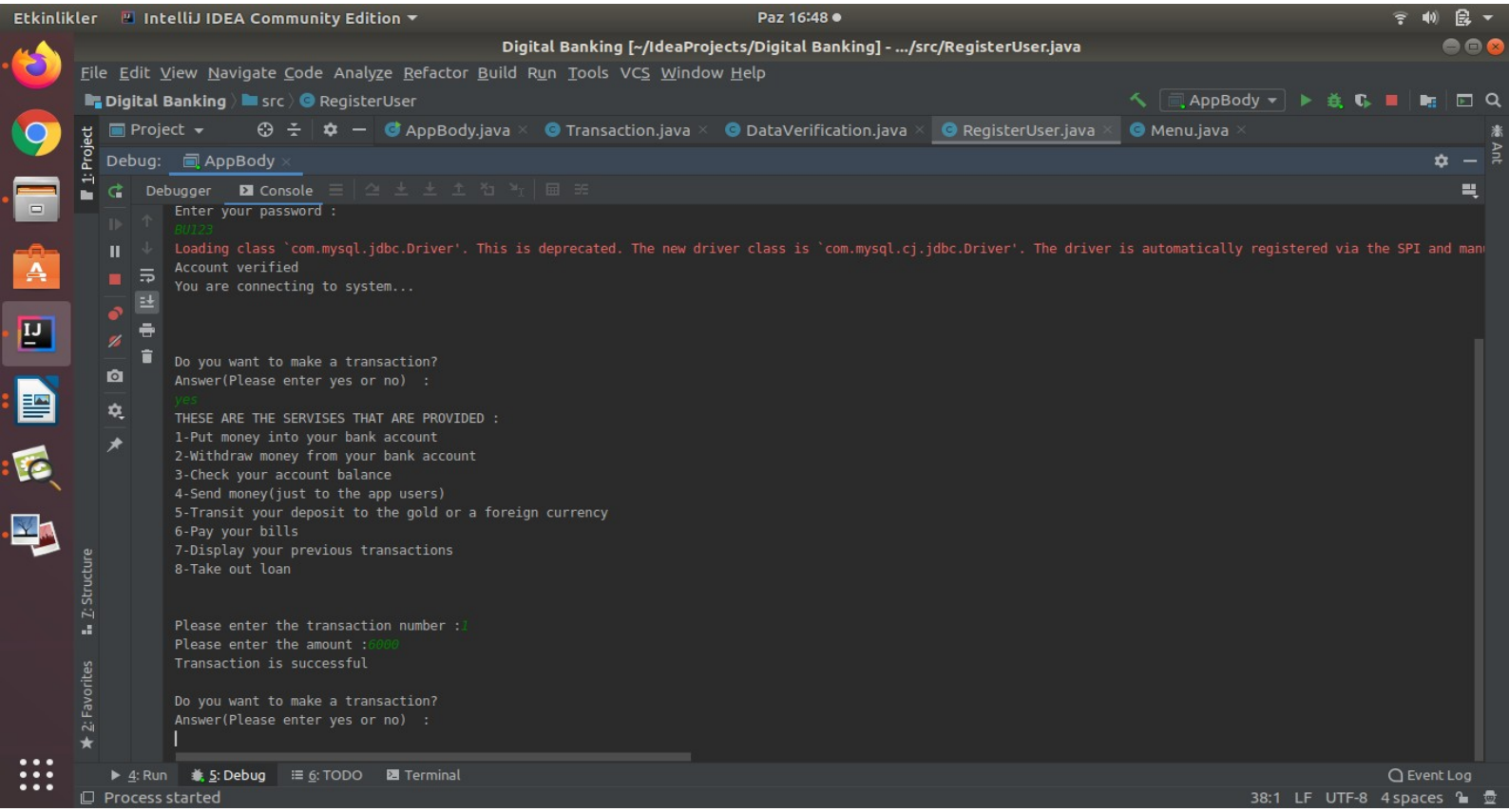
6.2.1 .Verified account

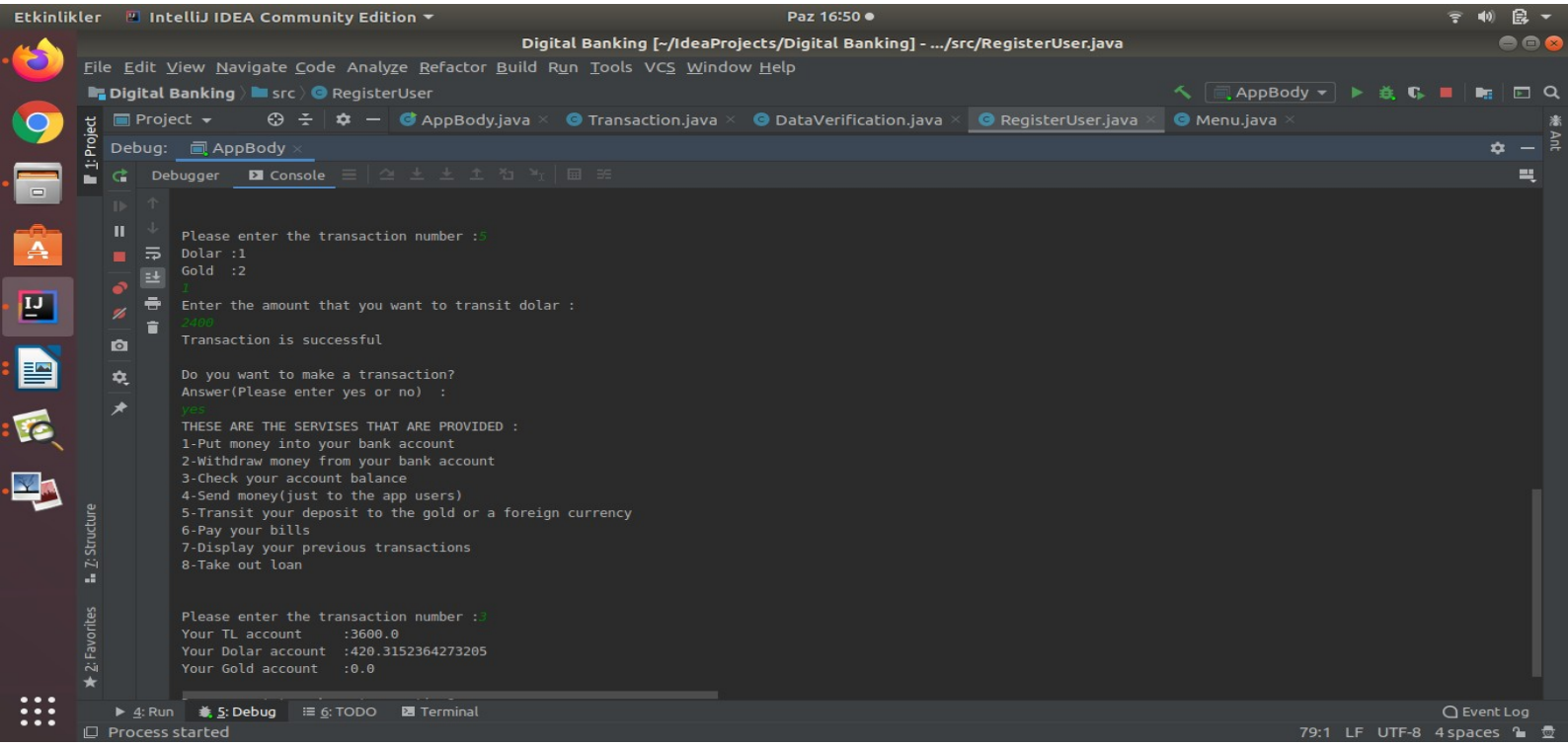


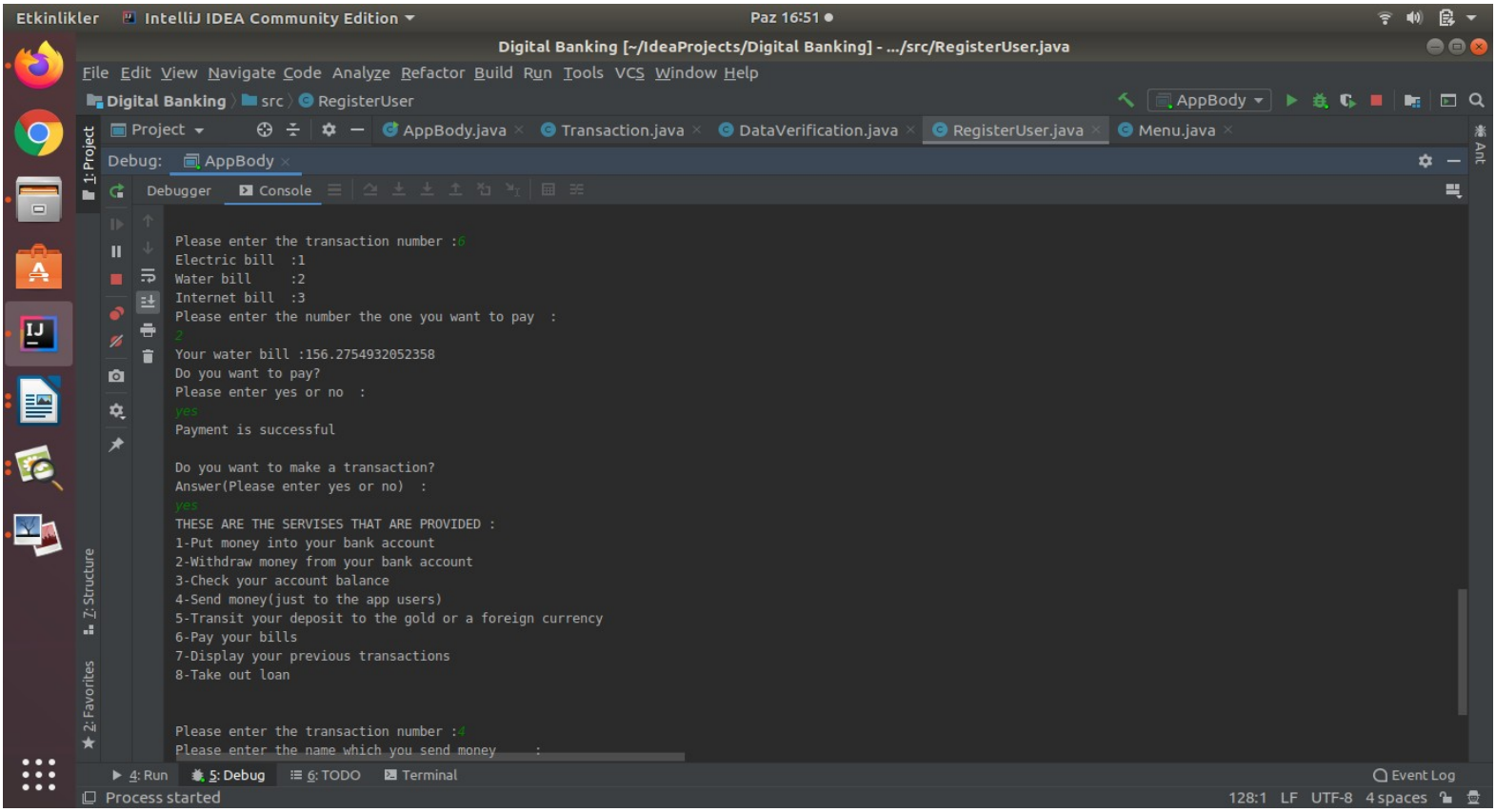
6.2.2 .Unverified account

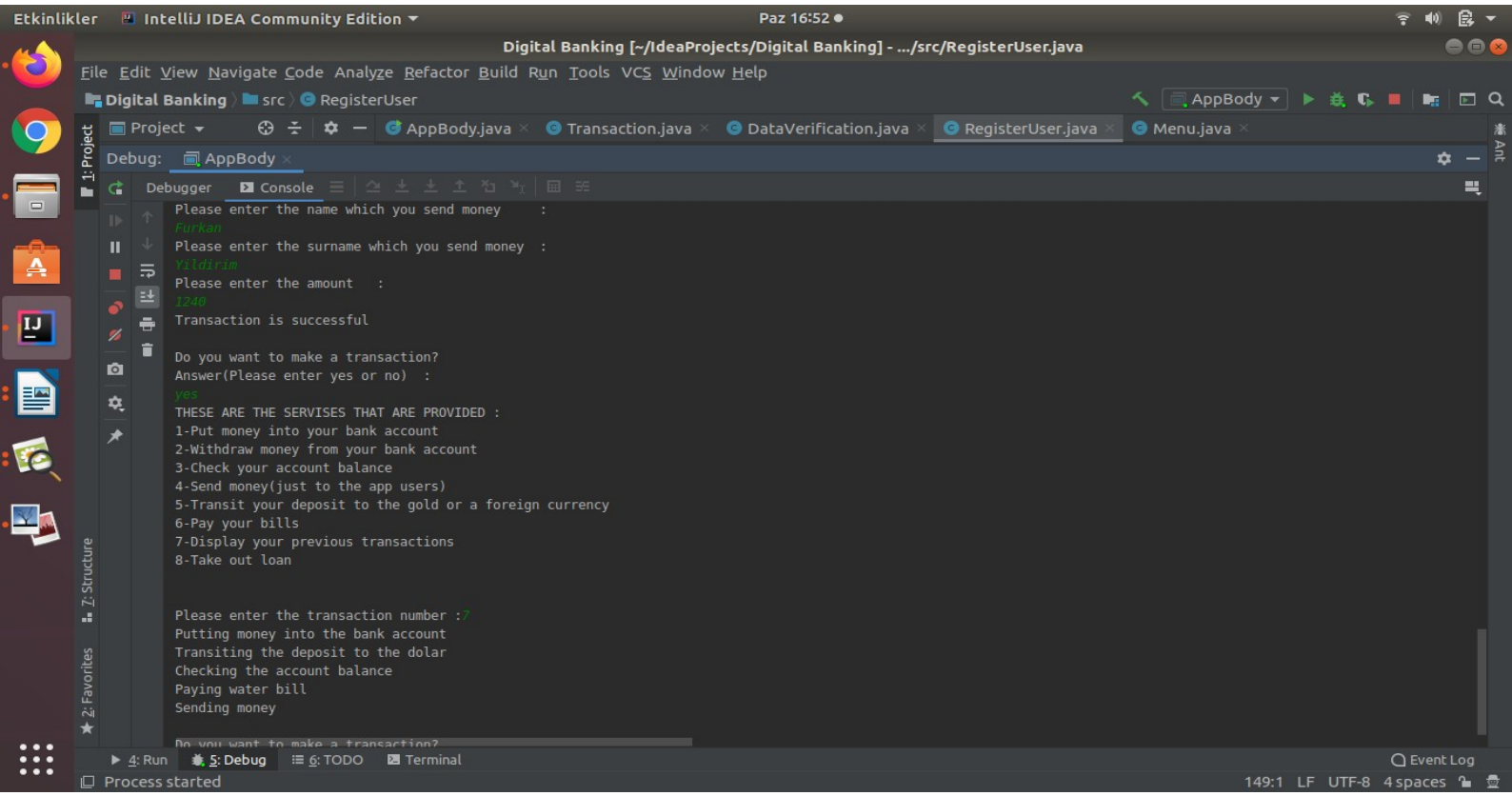


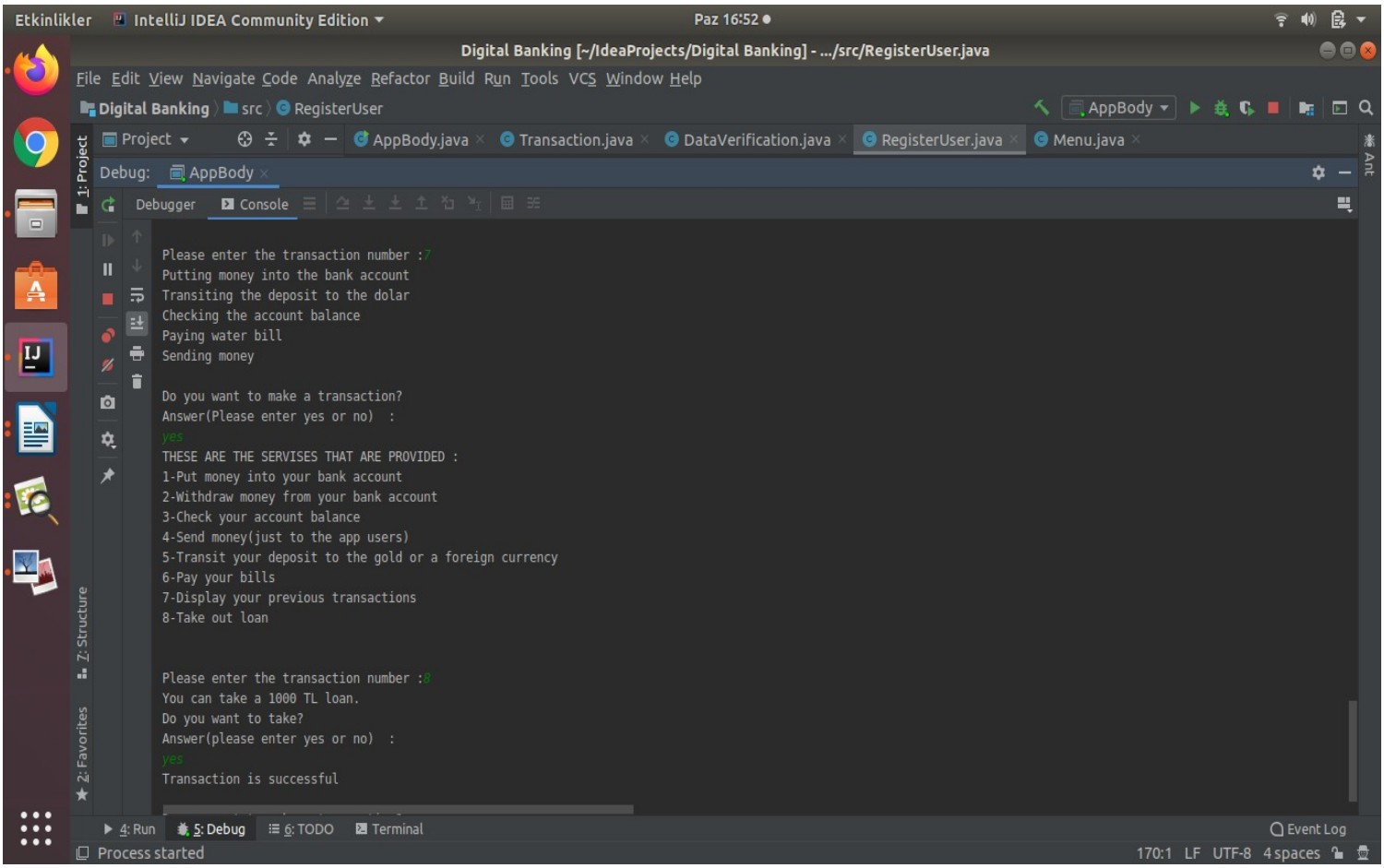
6.3 .Transection and Menu Part






Etkinlikler
IntelliJ IDEA Community Edition
Paz 16:51
Digital Banking [~/IdeaProjects/Digital Banking] - .../src/RegisterUser.java
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Digital Banking src RegisterUser
AppBody
Project
AppBody.java
Transaction.java
DataVerification.java
RegisterUser.java
Menu.java
Debug: AppBody
Debugger
Console
Please enter the transaction number :6
Electric bill :1
Water bill :2
Internet bill :3
Please enter the number the one you want to pay :
2
Your water bill :156.2754932052358
Do you want to pay?
Please enter yes or no :
yes
Payment is successful
Do you want to make a transaction?
Answer(Please enter yes or no) :
yes
THESE ARE THE SERVISES THAT ARE PROVIDED :
1-Put money into your bank account
2-Withdraw money from your bank account
3-Check your account balance
4-Send money(just to the app users)
5-Transit your deposit to the gold or a foreign currency
6-Pay your bills
7-Display your previous transactions
8-Take out loan
Please enter the transaction number :4
Please enter the name which you send money :
4: Run
5: Debug
6: TODO
Terminal
Event Log
Process started
128:1 LF UTF-8 4 spaces


Etkinlikler
IntelliJ IDEA Community Edition
Paz 16:52
Digital Banking [~/IdeaProjects/Digital Banking] - .../src/RegisterUser.java
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Digital Banking src RegisterUser
AppBody
Project
AppBody.java
Transaction.java
DataVerification.java
RegisterUser.java
Menu.java
Debug: AppBody
Debugger
Console
Please enter the name which you send money :
Furkan
Please enter the surname which you send money :
Yildirim
Please enter the amount :
1240
Transaction is successful
Do you want to make a transaction?
Answer(Please enter yes or no) :
yes
THESE ARE THE SERVISES THAT ARE PROVIDED :
1-Put money into your bank account
2-Withdraw money from your bank account
3-Check your account balance
4-Send money(just to the app users)
5-Transit your deposit to the gold or a foreign currency
6-Pay your bills
7-Display your previous transactions
8-Take out loan
Please enter the transaction number :7
Putting money into the bank account
Transiting the deposit to the dolar
Checking the account balance
Paying water bill
Sending money
Do you want to make a transaction?
1: Project
2: Favorites
7: Structure
Ant
4: Run
5: Debug
6: TODO
Terminal
Event Log
Process started
149:1 LF UTF-8 4 spaces



7. EXTRA COMMENT/ EXPLANATION

In this project, mySQL is used in order to create database and tables. Also, I/O is used in order to create files for individual users and to save the previous transactions.

Libraries :

```
import java.io.IOException;
import java.util.Scanner;
import java.sql.*;

import java.io.*;
```