OOAD Assignment-2

client.java

```
package com.Bankrecords.org;//Created a package com.Bankrecords.org
//Import Array list from library
//Create abstract class name client, readdata, processdata and printdata
public abstract class Client {
public abstract void readData();
public abstract void processData();
public abstract void printData(ArrayList<BankRecords> records);
public void printData() {
}
}
```

……

BankRecords.java

```
package com.Bankrecords.org;
//Importing the necessary libraries
import java.io.BufferedReader;
import   java.io.FileNotFoundException;
import   java.io.FileReader;
import   java.io.IOException;
import   java.util.ArrayList;
//Creating a Class BankRecords and inheriting the client class
public class BankRecords extends Client {
//declaring the varibales as required
int age;
float income;
int children;
String id; String sex; String car; String pep; String region; String married; String mortgage; String save_act;
String current_act;
ArrayList<String> arrayList;
//Implementing getters and setter methods for accessing the instance variables
public int getterAge() {
return age;
}
public void setterAge(int age) {
```

```
this.age = age;
}
public float getterIncome() {
return income;
}
public void setterIncome(Float income) {
this.income = income;
}
public int getterChildren() {
return children;
}
public void setterChildren(int children) {
this.children = children;
}
public String getterID() {
return id;
}
public void setterID(String id) {
this.id = id;
}
public String getterSex() {
return sex;
}
public void setterSex(String sex) {
this.sex = sex;
}
public String getterCar() {
return car;
}
public void setterCar(String car) {
this.car = car;
}
public String getterPep() {
return pep;
```

```
}
public void setterPep(String pep) {
this.pep = pep;
}
public String getterRegion() {
return region;
}
public void setterRegion(String region) {
this.region = region;
}
public String getterMarried() {
return married;
}
public void setterMarried(String married) {
this.married = married;
}
public String getterMortgage() {
return mortgage;
}
public void setterMortgage(String mortgage) {
this.mortgage = mortgage;
}
public String getterSave_act() {
return save_act;
}
public void setterSave_act(String save_act) {
this.save_act = save_act;
}
public String getterCurrent_act() {
return current_act;
}
public void setterCurrent_act(String current_act) {
this.current_act = current_act;
}
```

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```
//Implementing the try & catch methods and read the input data from csv file
public void readData() {
try {
FileReader Readfile = new FileReader("bank-Detail(2).csv");// Create a new FileReader object to read the CSV file
try (BufferedReader Readbuffer = new BufferedReader(Readfile)) {
String rec;
arrayList = new ArrayList<String>();// Initialize an Array List to store the data
while ((rec = Readbuffer.readLine()) != null) //Read the data each line by line
{
StringBuffer sbr = new StringBuffer();
sbr.append(rec);// Append the line to the StringBuffer object
arrayList.add(sbr.toString());
}
} // Catch a FileNotFoundException if the file is not found or missing
} catch (FileNotFoundException e) {
System.out.println("Error: File not found :)"+ e.getMessage());
} // Catch an IO Exception if there is an error reading the file
catch (IOException e) {
System.out.println("Error reading file: " + e.getMessage());
}
}
public void processData() {
for (int j = 0; j < 25 && j < arrayList.size(); j++) {  //For loop, for iteration and getting the values up to 25 times
try {
String myobj = arrayList.get(j);
String column[] = myobj.toString().split(",");
this.setterID(column[0]);
this.setterAge(Integer.parseInt(column[1]));
this.setterSex(column[2]);
this.setterRegion(column[3]);
this.setterIncome(Float.parseFloat(column[4]));
this.setterMortgage(column[10]);
this.printData();
} catch (Exception e) {
```

```
// handles the exception if any error occurs and displays the error
System.out.println("Error processing data at index " + j + ": " + e.getMessage());
}
}
}
public int getAge() {
return age;
}
public void setAge(int age) {
this.age = age;
}
public float getIncome() {
return income;}
public void setIncome(float income) {
this.income = income;
}
public int getChildren() {
return children;
}
public void setChildren(int children) {
this.children = children;
}
public String getId() {
return id;
}
public void setId(String id) {
this.id = id;
}
public String getSex() {
return sex;
}
public void setSex(String sex) {
this.sex = sex;
}
```

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```
public String getCar() {
return car;
}
public void setCar(String car) {
this.car = car;
}
public String getPep() {
return pep;
}
public void setPep(String pep) {
this.pep = pep;
}
public String getRegion() {
return region;
}
public void setRegion(String region) {
this.region = region;
}
public String getMarried() {
return married;
}
public void setMarried(String married) {
this.married = married;
}
public String getMortgage() {
return mortgage;
}
public void setMortgage(String mortgage) {
this.mortgage = mortgage;
}
public String getSave_act() {
return save_act;
}
public void setSave_act(String save_act) {
```

```
this.save_act = save_act;
}
public String getCurrent_act() {
return current_act;
}
public void setCurrent_act(String current_act) {
this.current_act = current_act;
}
public ArrayList<String> getarrayList() {
return arrayList;
}
public void setaList(ArrayList<String> aList) {
this.arrayList = aList;
}
//Method printData()
@Override
public void printData() //this method calls within processdata() to print out data for each record
{
String a = String.format("%-10s", this.getterID()); //formatting to print in right order
String b = String.format("%-7s", this.getterAge());
String c = String.format("%-9s", this.getterSex());
String d = String.format("%-16s", this.getterRegion());
String e = String.format("%-15s", this.getterIncome());
String f = String.format("%-5s", this.getterMortgage());
System.out.println(a+b+c+d+e+f); //printing the values read from arraylist
}
//Creating the Main function
public static void main(String[] args)
{
//Creating new instance to read bank records
BankRecords br = new BankRecords();
br.readData();
System.out.println("ID"+"\t "+" AGE"+"\t"+" SEX"+"\t"+" REGION"+"\t "+" INCOME"+" \t"+" MORTGAGE");
//printing the parameters of the csv file to console
```

```
br.processData();
}
public void printData(ArrayList<BankRecords> records) {
}
}
```

OUTPUT: