510\_Hui\_Tu\_Lab2\_Documentation

**Results Snapshot:**

Graphical user interface, text

Description automatically generated

**Client.java:**

public abstract class Client {  
   
  
 public abstract void readData(); //read file detail  
   
 public abstract void processData();  
   
 public abstract void printData();  
   
 //finish remaining methods  
}

**BankRecords.java**

import java.io.\*;  
import java.util.ArrayList;  
import java.util.Arrays;  
import java.util.List;  
  
public class BankRecords extends Client {  
 //setup static objects for IO processing  
  
 //array of BankRecords objects  
 static BankRecords *robjs*[] = new BankRecords[800];  
 //arraylist to hold spreadsheet rows & columns  
 static ArrayList<List<String>> *array* = new ArrayList<>();  
  
 //instance fields  
 private String id;  
 private int age;  
 private String sex;  
 private String region;  
 private Double income;  
 private String married;  
 private int children;  
 private String car;  
 private String save\_act;  
 private String current\_act;  
 private String mortgage;  
 private String pep;  
 /\*create remaining instance fields with appropriate data types\*/  
   
  
 public static BankRecords[] getRobjs() {  
 return *robjs*;  
 }  
  
 public static void setRobjs(BankRecords[] robjs) {  
 BankRecords.*robjs* = robjs;  
 }  
  
 public static ArrayList<List<String>> getArray() {  
 return *array*;  
 }  
  
 public static void setArray(ArrayList<List<String>> array) {  
 BankRecords.*array* = array;  
 }  
  
 @Override  
 public void readData() {  
   
 BufferedReader br = null;  
 //initialize reader object and set file path to root of project  
 try {  
 br = new BufferedReader(new FileReader(new File("bank-Detail.csv")));  
 String line;  
 //read each record in csv file  
 while ((line = br.readLine()) != null) {  
   
 //parse each record in csv file by a comma ( , )  
 //into a list stored in the arraylist-> Arrays  
 *array*.add(Arrays.*asList*(line.split(",")));  
 }  
 } catch (FileNotFoundException e) {  
 e.printStackTrace();  
 } catch (IOException e) {  
 e.printStackTrace();  
 } finally {  
 if (br != null) {  
 try {  
 br.close();  
 } catch (IOException e) {  
 e.printStackTrace();  
 }  
 }  
 }  
  
  
 }  
   
 @Override  
 public void processData() {  
   
 //create index for array while iterating thru arraylist  
 int idx=0;  
 for (List<String> rowData: *array*) {  
 *robjs*[idx]= new BankRecords();  
 *robjs*[idx].setId(rowData.get(0));  
 *robjs*[idx].setAge(Integer.*parseInt*(rowData.get(1)));  
 *robjs*[idx].setSex(rowData.get(2));  
 *robjs*[idx].setRegion(rowData.get(3));  
 *robjs*[idx].setIncome(Double.*parseDouble*(rowData.get(4)));  
 *robjs*[idx].setMarried(rowData.get(5));  
 *robjs*[idx].setChildren(Integer.*parseInt*(rowData.get(6)));  
 *robjs*[idx].setCar(rowData.get(7));  
 *robjs*[idx].setSave\_act(rowData.get(8));  
 *robjs*[idx].setCurrent\_act(rowData.get(9));  
 *robjs*[idx].setMortgage(rowData.get(10));  
 *robjs*[idx].setPep(rowData.get(11));  
 idx++;  
 }  
 }  
   
 @Override  
 public void printData() {  
 System.*out*.println("ID\t\t\tAGE\t\tSEX\t\t\tREGION\t\t\tINCOME\t\t\tMORTGAGE");  
 int idx=0;  
 for (List<String> rowData: *array*) {   
 if(idx <=25) {  
 System.*out*.printf("%s\t\t%s\t\t%s\t\t%-11s\t\t%-9s\t\t%-9s\n",*robjs*[idx].getId(),*robjs*[idx].getAge(),*robjs*[idx].getSex(),*robjs*[idx].getRegion(),*robjs*[idx].getIncome(),*robjs*[idx].getMortgage());  
 }  
 idx++;  
 }  
 }  
   
 */\*\*  
 \** ***@return*** *the id  
 \*/* public String getId() {  
 return id;  
 }  
 */\*\*  
 \** ***@param*** *id the id to set  
 \*/* public void setId(String id) {  
 this.id = id;  
 }  
 */\*\*  
 \** ***@return*** *the age  
 \*/* public int getAge() {  
 return age;  
 }  
 */\*\*  
 \** ***@param*** *age the age to set  
 \*/* public void setAge(int age) {  
 this.age = age;  
 }  
 */\*\*  
 \** ***@return*** *the sex  
 \*/* public String getSex() {  
 return sex;  
 }  
 */\*\*  
 \** ***@param*** *sex the sex to set  
 \*/* public void setSex(String sex) {  
 this.sex = sex;  
 }  
 */\*\*  
 \** ***@return*** *the region  
 \*/* public String getRegion() {  
 return region;  
 }  
 */\*\*  
 \** ***@param*** *region the region to set  
 \*/* public void setRegion(String region) {  
 this.region = region;  
 }  
 */\*\*  
 \** ***@return*** *the income  
 \*/* public Double getIncome() {  
 return income;  
 }  
 */\*\*  
 \** ***@param*** *income the income to set  
 \*/* public void setIncome(Double income) {  
 this.income = income;  
 }  
 */\*\*  
 \** ***@return*** *the married  
 \*/* public String getMarried() {  
 return married;  
 }  
 */\*\*  
 \** ***@param*** *married the married to set  
 \*/* public void setMarried(String married) {  
 this.married = married;  
 }  
 */\*\*  
 \** ***@return*** *the children  
 \*/* public int getChildren() {  
 return children;  
 }  
 */\*\*  
 \** ***@param*** *children the children to set  
 \*/* public void setChildren(int children) {  
 this.children = children;  
 }  
 */\*\*  
 \** ***@return*** *the car  
 \*/* public String getCar() {  
 return car;  
 }  
 */\*\*  
 \** ***@param*** *car the car to set  
 \*/* public void setCar(String car) {  
 this.car = car;  
 }  
 */\*\*  
 \** ***@return*** *the save\_act  
 \*/* public String getSave\_act() {  
 return save\_act;  
 }  
 */\*\*  
 \** ***@param*** *save\_act the save\_act to set  
 \*/* public void setSave\_act(String save\_act) {  
 this.save\_act = save\_act;  
 }  
 */\*\*  
 \** ***@return*** *the current\_act  
 \*/* public String getCurrent\_act() {  
 return current\_act;  
 }  
 */\*\*  
 \** ***@param*** *current\_act the current\_act to set  
 \*/* public void setCurrent\_act(String current\_act) {  
 this.current\_act = current\_act;  
 }  
 */\*\*  
 \** ***@return*** *the mortgage  
 \*/* public String getMortgage() {  
 return mortgage;  
 }  
 */\*\*  
 \** ***@param*** *mortgage the mortgage to set  
 \*/* public void setMortgage(String mortgage) {  
 this.mortgage = mortgage;  
 }  
 */\*\*  
 \** ***@return*** *the pep  
 \*/* public String getPep() {  
 return pep;  
 }  
 */\*\*  
 \** ***@param*** *pep the pep to set  
 \*/* public void setPep(String pep) {  
 this.pep = pep;  
 }  
 //instance fields  
   
}

**BankRecordsTest.java**

public class BankRecordsTest {  
  
 public static void main(String[] args) {  
 // *TODO Auto-generated method stub* Client client = new BankRecords();  
 client.readData();  
 client.processData();  
 client.printData();  
 }  
}