

BankRecords.java

```
/* Eric Li
```

```
A20419312
```

```
ITMD 411
```

```
Lab 2 */
```

```
import java.io.File; // Imports file class
```

```
import java.io.FileNotFoundException; // Class to handle errors
```

```
import java.util.ArrayList;
```

```
import java.util.*;
```

```
import java.io.*;
```

```
public class BankRecords extends Client {
```

```
    static BankRecords bank_records[] = new BankRecords[600];
```

```
    static ArrayList<List<String>> raw_data = new ArrayList<>();
```

```
    private String Id, region, sex, married, car, save_act, current_act, mortgage, pep;
```

```
    private Integer age, children;
```

```
    protected Double income;
```

```
    public String getId() {
```

```
        return Id;
```

```
    }
```

```
    public void setId(String Id) {
```

```
        this.Id = Id;
```

```
    }
```

```
    public Integer getAge() {
```

```
        return age;
```

```
    }
```

```
    public void setAge(Integer age) {
```

```
        this.age = age;
```

```
    }
```

```
    public String getSex() {
```

```
        return sex;
```

```
    }
```

```
    public void setSex(String sex) {
```

```
        this.sex = sex;
```

```
    }
```

```
    public String getRegion() {
```

```
        return region;
```

```
    }
```

```
    public void setRegion(String region) {
```

```
        this.region = region;
```

```
    }
```

```
    public Double getIncome() {
```

```
        return income;
```

```
    }
```

```
    public void setIncome(Double income) {
```



```

BufferedReader br;
try { // Try/catch for error catching
    String line;
    br = new BufferedReader(new FileReader("bank-Detail.csv"));
    while ((line = br.readLine()) != null) {
        // Takes a line of data from file and stores them in raw_data in a comma
separated format between each element
        raw_data.add(Arrays.asList(line.split(",")));
    }
    processData();
    br.close();
} catch (FileNotFoundException e) {
    System.out.println("Could not resolve file name");
    e.printStackTrace(); // Exception handling
} catch (IOException f) { // IOException needed for br.readLine
    System.out.println("Error: " + f);
}
}

public void processData() { // Enhanced for Loop
    int idx = 0;

    for (List<String> rowData : raw_data) { // For each string in the
        bank_records[idx] = new BankRecords();
        bank_records[idx].setId(rowData.get(0));
        bank_records[idx].setAge(Integer.parseInt(rowData.get(1)));
        bank_records[idx].setSex(rowData.get(2));
        bank_records[idx].setRegion(rowData.get(3));
        bank_records[idx].setIncome(Double.parseDouble(rowData.get(4)));
        bank_records[idx].setMortgage(rowData.get(5));

        idx++;
        /*
        bank_records[idx].setChildren(Integer.parseInt(rowData.get(6)));
        bank_records[idx].setCar(rowData.get(7));
        bank_records[idx].setSave_act(rowData.get(8));
        bank_records[idx].setCurrent_act(rowData.get(9));
        bank_records[idx].setMarriage(rowData.get(10));
        bank_records[idx].setPep(rowData.get(11));
        */
    }
    printData();
}

public void printData() {
    // Column headers
    System.out.print("ID" + "\t\t" + "Age" + "\t\t" + "Sex" + "\t\t" + "Region" + "\t\t" +
"Mortgage" + "\t" + "Income" + "\n");
    // create for loop and grab each record bank_records' data onto the console

```

```

for (int i = 0; i < 25; i++) {
    if (bank_records[i].getRegion().length() > 5) {
        System.out.print(bank_records[i].getId() + "\t\t");
        System.out.print(bank_records[i].getAge() + "\t\t");
        System.out.print(bank_records[i].getSex() + "\t\t");
        System.out.print(bank_records[i].getRegion() + "\t");
        System.out.print(bank_records[i].getMortgage() + "\t\t");
        System.out.print(bank_records[i].getIncome() + "\t\t");
        System.out.println();
        /*
        System.out.println(bank_records[i].getChildren() + "\t\t");
        System.out.println(bank_records[i].getCar() + "\t\t");
        System.out.println(bank_records[i].getSave_act() + "\t\t");
        System.out.println(bank_records[i].getCurrent_act() + "\t\t");
        System.out.println(bank_records[i].getMarriage() + "\t\t");
        System.out.println(bank_records[i].getPep() + "\t\t");
        */
    } else { // Creates space between the region and mortgage data entries on print out
        System.out.print(bank_records[i].getId() + "\t\t");
        System.out.print(bank_records[i].getAge() + "\t\t");
        System.out.print(bank_records[i].getSex() + "\t\t");
        System.out.print(bank_records[i].getRegion() + "\t\t");
        System.out.print(bank_records[i].getMortgage() + "\t\t");
        System.out.print(bank_records[i].getIncome() + "\t\t");
        System.out.println();
    }
}

/*
public String toString() {
    return Id + "\t" + age + "\t" ;//+ sex + "\t" + region + "\t" + mortgage + "\t" + income
+ married + "\t"
    + children + "\t" + car + "\t" + save_act + "\t" + current_act + "\t" + pep + "\n";
}
*/

public static void main(String[] args) {
    BankRecords account = new BankRecords();
    account.readData();
}
}

```

Client.java

```
/* Eric Li  
ITMD 411  
Lab 2 */
```

```
public abstract class Client {  
    public abstract void readData();  
    public abstract void processData();  
    public abstract void printData();  
}
```

OUTPUT SNAPSHOT

TERMINAL DEBUG CONSOLE PROBLEMS 3 OUTPUT

Windows PowerShell
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Try the new cross-platform PowerShell <https://aka.ms/pscore6>

PS Z:\ALL Java Projects\ITMD 411\Lab 2> cd "z:\ALL Java Projects\ITMD 411\Lab 2\" ; if (\$?) { javac BankRecords.java } ; if (\$?) { java BankRecords }

ID	Age	Sex	Region	Mortgage	Income
id12101	48	FEMALE	INNER_CITY	YES	22467.0
id12102	40	MALE	TOWN	NO	32825.0
id12103	51	FEMALE	INNER_CITY	NO	16575.4
id12104	23	FEMALE	TOWN	NO	20375.4
id12105	57	FEMALE	RURAL	NO	50576.3
id12106	57	FEMALE	TOWN	YES	37869.6
id12107	22	MALE	RURAL	YES	8877.07
id12108	58	MALE	TOWN	NO	24946.6
id12109	37	FEMALE	SUBURBAN	YES	25304.3
id12110	54	MALE	TOWN	YES	24212.1
id12111	66	FEMALE	TOWN	YES	59803.9
id12112	52	FEMALE	INNER_CITY	NO	266222.8
id12113	44	FEMALE	TOWN	YES	15735.8
id12114	66	FEMALE	TOWN	YES	55204.7
id12115	36	MALE	RURAL	YES	19474.6
id12116	38	FEMALE	INNER_CITY	YES	22342.1
id12117	37	FEMALE	TOWN	YES	17729.8
id12118	46	FEMALE	SUBURBAN	YES	41016.0
id12119	62	FEMALE	INNER_CITY	YES	26909.2
id12120	31	MALE	TOWN	YES	22522.8
id12121	61	MALE	INNER_CITY	YES	57880.7
id12122	50	MALE	TOWN	YES	16497.3
id12123	54	MALE	INNER_CITY	YES	38446.6
id12124	27	FEMALE	TOWN	NO	15538.8
id12125	22	MALE	INNER_CITY	NO	12640.3

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