```java
package zacheryNyman;


import java.io.* ;

import java.util.Random ;


public class DataGenerator {

        public static void main(String[] args) {


                Random generator = new Random() ;

                int NumCustomers = 3000 ;

                int NumLoans = 1000 ;

                int NumLoansPaying = 30000 ;


                try {

                        String tuple ;     // a tuple/record of attributes

                        String a1, a2, a3, a4, a5, a6, a7 ; // attributes 1 .. 8

                        File file = null ;

                        FileWriter fw = null ;

                        BufferedWriter bw = null ;



                        // create the customers relation
```

```java
file = new File("data-customers.csv") ;

fw = new FileWriter(file) ;

bw = new BufferedWriter(fw) ;


for (int i = 6 ; i <= NumCustomers ; i++)

{

        a1 = Integer.toString(i) ;// customerid

        a2 = "Jenny" + Integer.toString(i) ;// first name

        a3 = "Davis" + Integer.toString(i) ;// last name

        a4 = a2 + "." + a3 + "@du.edu";// email

        a5 = Integer.toString( generator.nextInt(1000000000)+i) ;  // phone
number

        a6 = i + " Hunkey Dorey Ln Keystone CO 80210";

        tuple = a1 + "," + a2 + "," + a3 + "," + a4 + "," + a5 + "," + a6 +
"\n";


        bw.write(tuple) ;

}
bw.close() ;


// create the loans relation


file = new File("data-loans.csv") ;
```

```java
                    fw = new FileWriter(file) ;

                    bw = new BufferedWriter(fw) ;


                    for (int i = 1 ; i <= NumLoans ; i++)

                    {

                            a1 = Integer.toString(i) ; // loanid

                            a2 = Integer.toString(generator.nextInt(5000000)+500000) ;//
balance

                            a3 = "Investment Loan" ;   // Loan type

                            a4 = Integer.toString(generator.nextInt(10)+3) ;// interest rate

                            a5 = Integer.toString(generator.nextInt(50000)+1000);// previous
payment

                            a6 = Integer.toString(generator.nextInt(50000)+1000);// next
payment

                            a7 = Integer.toString(generator.nextInt(12)+1) +

                                    "/" + Integer.toString(generator.nextInt(28)+1) +
"/2018";// next payment date

                            tuple = a1 + "," + a2 + "," + a3 + "," + a4 + "," + a5 + "," + a6 + ","
+ a7 + "\n";


                            bw.write(tuple) ;

                    }

                    bw.close() ;
```

```
// create the isPaying relation

// NOTE: we know there are customer tuples for customerid

1..NumSailors

//      and that there are loan tuples for loanid 1..NumBoats,

//      so we just draw random numbers from those ranges


file = new File("data-is-paying.csv") ;

fw = new FileWriter(file) ;

bw = new BufferedWriter(fw) ;


for (int i = 1 ; i <= NumLoansPaying ; i++) {

        // customerid

        a1 = Integer.toString( generator.nextInt(NumCustomers)+1 ) ;


        // loanid

        a2 = Integer.toString( generator.nextInt(NumLoans)+1 ) ;


        tuple = a1 + "," + a2 + "\n";


        bw.write(tuple) ;

}
```

```java
        bw.close() ;


        file = new File("data-accounts.csv") ;

        fw = new FileWriter(file) ;

        bw = new BufferedWriter(fw) ;


        for (int i = 1 ; i <= NumCustomers*2 ; i++) {

                // customerid

                a1 = Integer.toString( generator.nextInt(NumCustomers)+1 ) ;


                // account number

                a2 = Integer.toString( i ) ;


                // balance

                a3 = Integer.toString(generator.nextInt(5000000)+500000) ;


                tuple = a1 + "," + a2 + "," + a3 + "\n";


                bw.write(tuple) ;
        }
        bw.close() ;
```

```java
file = new File("data-banks.csv") ;

fw = new FileWriter(file) ;

bw = new BufferedWriter(fw) ;


for (int i = 1 ; i <= NumCustomers*2 ; i++) {

        // customerid

        a1 = Integer.toString( generator.nextInt(NumCustomers)+1 ) ;


        // bank name

        a2 = "US Bank";


        //address

        a3 = i + " Money Making Blvd Breckenridge CO 80250";


        //phone number

        a4 = Integer.toString( generator.nextInt(1000000000)+i) ;


        tuple = a1 + "," + a2 + "," + a3 + "," + a4 + "\n";


        bw.write(tuple) ;
}
bw.close() ;
```

```java
file = new File("data-collateral.csv") ;

fw = new FileWriter(file) ;

bw = new BufferedWriter(fw) ;


for (int i = 1 ; i <= NumCustomers*2 ; i++) {

        //customerid

        a1 = Integer.toString( generator.nextInt(NumCustomers)+1 ) ;


        //property

        a2 = i + " Investment Property Ave Manhattan NY 35201";


        //natural resources

        a3 = "Natural Gas";


        //machinery

        a4 = "Microprocessor plant in China" ;


        tuple = a1 + "," + a2 + "," + a3 + "," + a4 + "\n";


        bw.write(tuple) ;
}
```

```java
				bw.close() ;



		}

		catch (IOException e) {

				e.printStackTrace() ;

		}

	}

}
```