

```

package weeklyAssignment3;

import java.sql.Date;
import java.text.ParseException;
import java.util.ArrayList;
import java.util.List;

public class Main {

    public static void main(String[] args) throws ParseException{
        // TODO Auto-generated method stub

        //create customer list

        List<Customer> customerList = new ArrayList<>();
        customerList.add(new Customer(1,"Tom","9090901010",new Account(1,1000)));
        customerList.add(new Customer(2,"Jerry","9090902020",new Account(2,1500)));
        Bill b=new Bill();

        //create bill

        List<Bill> billList = new ArrayList<>();
        billList.add(new Bill(1,1,b.format.parse("12-09-2022"),null,1001,false));
        billList.add(new Bill(2,2,b.format.parse("13-09-2022"),null,500,false));
        billList.add(new Bill(3,3,b.format.parse("16-09-2022"),null,1000,false));


        Transaction transaction = new Transaction(customerList,billList);
        transaction.payBill();

    }

```

```
}
```

```
public class Account {  
    private int acctno;  
    private double balance;  
  
    //create default and parameter constructor
```

```
    public Account() {  
    }
```

```
    public Account(int acctno, double balance) {  
        this.acctno = acctno;  
        this.balance = balance;  
    }
```

```
    public int getAcctno() {  
        return acctno;  
    }
```

```
    public void setAcctno(int acctno) {  
        this.acctno = acctno;
```

```
}
```

```
public double getBalance() {  
    return balance;  
}
```

```
public void setBalance(double balance) {  
    this.balance = balance;  
}
```

```
// create to string method
```

```
@Override  
public String toString() {  
    return String.format("AccountNo: %-10s\tBalance:$%-10s",acctno,balance);  
}  
  
}
```

```
package wwекlyAssignment3;
```

```
public class Customer {  
    private int id;
```

```
private String name;  
private String phone;  
private Account account;
```

//create default and parameter constructor

```
public Customer() {  
}
```

```
public Customer(int id, String name, String phone, Account account) {  
    this.id = id;  
    this.name = name;  
    this.phone = phone;  
    this.account = account;  
}
```

```
public int getId() {  
    return id;  
}
```

```
public void setId(int id) {  
    this.id = id;  
}
```

```
public String getName() {  
    return name;  
}
```

```
public void setName(String name) {  
    this.name = name;  
}
```

```
public String getPhone() {  
    return phone;  
}
```

```
public void setPhone(String phone) {  
    this.phone = phone;  
}
```

```
public Account getAccount() {  
    return account;  
}
```

```
public void setAccount(Account account) {  
    this.account = account;  
}
```

//generate to string method

```
@Override  
public String toString() {  
    return String.format("Customer details:\nCustomer Id: %-10s\tName: %-10s\tPhone: %-10s\nAccount details:\n%-10s",id,name,phone,account);  
}  
  
}
```

```
package wwекlyAssignment3;
```

```
import java.text.SimpleDateFormat;  
import java.util.Date;
```

```
public class Bill {  
    private int id;  
    private int custid;  
    private Date billGenerationDate;  
    private Date billPaymentDate;  
    private double amount;  
    private boolean paid;
```

```
SimpleDateFormat format = new SimpleDateFormat("dd-MM-yyy");
```

```
//create default and parameter constructor
```

```
public Bill() {  
    }
```

```
public Bill(int id, int custid, Date billGenerationDate, Date billPaymentDate, double amount,  
boolean paid) {
```

```
    this.id = id;  
    this.custid = custid;  
    this.billGenerationDate = billGenerationDate;  
    this.billPaymentDate = billPaymentDate;  
    this.amount = amount;  
    this.paid = paid;  
}
```

```
//generate getter and setter for all fields
```

```
public int getId() {  
    return id;  
}
```

```
public void setId(int id) {  
    this.id = id;  
}
```

```
public int getCustid() {  
    return custid;  
}
```

```
public void setCustid(int custid) {  
    this.custid = custid;  
}
```

```
public Date getBillGenerationDate() {  
    return billGenerationDate;  
}
```

```
public void setBillGenerationDate(Date billGenerationDate) {  
    this.billGenerationDate = billGenerationDate;  
}
```

```
public Date getBillPaymentDate() {  
    return billPaymentDate;  
}
```



```
public void setBillPaymentDate(Date billPaymentDate) {  
    this.billPaymentDate = billPaymentDate;  
}
```

```
public double getAmount() {  
    return amount;  
}
```

```
public void setAmount(double amount) {  
    this.amount = amount;  
}
```

```
public boolean isPaid() {  
    return paid;  
}
```

```
public void setPaid(boolean paid) {  
    this.paid = paid;  
}
```

```
//generate To string method
```

```

@Override

public String toString() {

    return String.format("Bill details: \nBill Id: %-10s\tCustomer Id: %-10s\tAmount:$%-10s\tGeneration Date: %-10s\tPayment Date: %-10s\tPaid: %-10s\n",id,custid,amount,format.format(billGenerationDate),billPaymentDate==null?"":format.format(billPaymentDate),paid? "Paid": "Not Paid");

}

}

```

```

package wwекlyAssignment3;

```

```

import java.util.ArrayList;

```

```

import java.util.Date;

```

```

import java.util.List;

```

```

//create transaction class

```

```

public class Transaction {

```

```

    private List<Customer> custList;

```

```

    private List<Bill> billList;

```

```

//create default and parameter construter for all field

```

```

    public Transaction() {

```

```

    }

```

```

    public Transaction(List<Customer> custList, List<Bill> billList) {

```

```

        this.custList = custList;

```

```

        this.billList = billList;

```

```

    }

```

//add get customer method

```
public Customer getCustomer(int id) {  
    for (Customer customer : custList) {  
        if(customer.getId() == id){  
            return customer;  
        }  
    }  
    return null;  
}
```

//add paybill method

```
public void payBill(){  
    for (Bill bill : billList) {  
        int custid = bill.getCustid();  
        Customer customer = getCustomer(custid);  
        if(customer == null){  
            System.out.println(String.format("Customer with customer id %d does not  
exists",custid));  
            continue;  
        }  
        double balance = customer.getAccount().getBalance();  
        if(balance >= bill.getAmount()){  
            bill.setPaid(true);  
            bill.setBillPaymentDate(new Date());  
            customer.getAccount().setBalance(balance-bill.getAmount());  
        }  
    }  
}
```

```
        System.out.println(String.format("Bill paid for customer id %d",custid));
    }else{
        bill.setPaid(false);
        System.out.println(String.format("Bill cannot be paid for customer id %d",custid));
    }
    System.out.println(customer);
    System.out.println(bill);
}
}
```