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```java
import java.io.*;

import java.util.ArrayList;

import java.util.Scanner;


/**
 *
 * @author mghoo
 */
public class Project {

    public static void main(String[] args) throws IOException {
        ArrayList<Customer_Info> customers=new ArrayList<>();
        ArrayList<Book> Books=new ArrayList<>();
        Scanner input=new Scanner(System.in);
        int Customer_count=0,Book_count=0;

        boolean value=true;
        Customer_Info CS=new Customer_Info();
        Book b=new Book();
    Rent r=new Rent();
```

```java
int choise;
    while(value)
    {
        System.out.println("""

                    Enter 1 to add Customer information

                    Enter 2 to add book

                    Enter 3 to rent a Book

                    Enter 4 Display customer

                    Enter 5 Display book information

                    Enter 6 Display rent

                    Enter 7 to exit

                    """);
        System.out.print("Enter your choise:");
        choise=input.nextInt();


        switch(choise){
            case 1:
            String customer_name;
            String phone_number;
            String Customer_id;
            input.nextLine();
            System.out.println("Enter customer name");
            customer_name=input.nextLine();
```

```java
System.out.println("Enter customer id");

Customer_id=input.nextLine();

while(Integer.parseInt(Customer_id)<0)

{

    System.out.println("Wrong value, Enter the Id
again");

    Customer_id=input.nextLine();

}


System.out.println("Enter customer phone
number");

phone_number=input.nextLine();

 while(Integer.parseInt(phone_number)<0)

{

    System.out.println("Wrong value, Enter the
Number phone again");

    phone_number=input.nextLine();

}

Customer_Info cus=new
Customer_Info(Customer_id,customer_name,phone_number);

customers.add(cus);

 cus.file_Customer_write();

 ++Customer_count;

   break;
```

```java
case 2:

    int price_of_per_day,Book_number;
    String hold;

    b.File_show_All();

    System.out.println("Enter The number  of the book");
    Book_number =input.nextInt();
    hold=b.get_Book_Info(Book_number);
    System.out.println("Enter The price of per  day");
    price_of_per_day=input.nextInt();
    while(price_of_per_day<0)
    {
        System.out.println("Enter the price of day again,the price of day must be 0 or beger than 0");
        price_of_per_day=input.nextInt();
    }

    Book Boo=new Book(hold,price_of_per_day);
    Books.add(Boo);
```

```java
            Boo.file_Book_write();

         ++Book_count;

            break;


        case 3:


        CS.File_show_customers();
        System.out.println(" ----------------------------------------
--------------------");


        b.File_show_book();
        System.out.println("enter number of cuostomer");


        int num_cuo=input.nextInt();
        while(num_cuo<=0||num_cuo>Customer_count)
        {
            System.out.println("wrong value the value can't be
beger or less than"+Customer_count);
            System.out.println("Enter numnber Customer
again");
            num_cuo=input.nextInt();
        }
        System.out.println(" ");


        System.out.println("enter number of book");
```

```java
        int num_book=input.nextInt();

         while(num_book<=0||num_book>Customer_count)
        {
            System.out.println("wrong value the value can't be
beger or less than"+Book_count);

            System.out.println("Enter numnber Book again");
            num_book=input.nextInt();
        }


            System.out.println(" ");
        System.out.println("enter number of rent days");
        int number_of_days=input.nextInt();
        while(number_of_days<0)
          {
             System.out.println("wrong value,Enter number
of day again");
             number_of_days=input.nextInt();
          }
        System.out.println("Enter how many times the
customer was rented,if he rent more than 3 times he will get a
%15 discount");
            int time_of_rent=input.nextInt();
```

```java
            Rent rent=new
Rent(number_of_days,customers.get(num_cuo-
1),Books.get(num_book-1),time_of_rent);
        rent.calc(time_of_rent);
        rent.Rent_file_writer();
        break;




    case 4:
    CS.File_show_customers();
    break;
    case 5:
        b.File_show_book();
    break;
    case 6:
        r.show_Rent_file();
    break;
    case 7:
     value=false;



    }
```

```
        }
    }


}
```

The Customer Class

```java
import java.io.*;

import java.util.Scanner;



public class Customer_Info {

    private String customer_id;

    private String customer_Name;

    private String number_phone;



    public Customer_Info(String customer_id, String
customer_Name, String number_phone) {

        this.customer_id = customer_id;

        this.customer_Name = customer_Name;

        this.number_phone = number_phone;

    }



    public Customer_Info() {



    }
```

```java
public  Customer_Info(Customer_Info cus)
{
    this.customer_Name=cus.customer_Name;

    this.customer_id=cus.customer_id;

    this.number_phone=cus.number_phone;
}


public String getCustomer_id() {
    return customer_id;
}


public String getCustomer_Name() {
    return this.customer_Name;
}


public String getNumber_phone() {
    return number_phone;
}

public void setCustomer_id(String customer_id) {
    this.customer_id = customer_id;
}

public void setCustomer_Name(String customer_Name) {
```

```java
        this.customer_Name = customer_Name;
    }


    public void setNumber_phone(String number_phone) {
        this.number_phone = number_phone;
    }


  /*public String toString()
{
 return "the customer id:"+this.customer_id +"\n the customer
name:"+this.customer_Name+"\n"+"customer phone
number:"+this.number_phone;
 }*/
 public void file_Customer_write()throws IOException{
 FileWriter file=new FileWriter("customer_info.txt",true);
 PrintWriter write=new PrintWriter(file);

 write.print(String.format("%10s",this.customer_Name));

 write.print(String.format("%16s", this.customer_id));
 write.println(String.format("%25s", this.number_phone));


 write.close();
```

```java
    }
    public void File_show_customers() throws IOException
    {
    System.out.printf("%12s%15s%30s\n","customer name","
    customer id", "coustomer phone number");
    File f=new File("customer_info.txt");
    Scanner print=new Scanner(f);


     int count=1;
    while(print.hasNext())
    {


    String line=print.nextLine();
    System.out.print(count+" "+(line)+"\n");
    ++count;


    }
    print.close();
    }


    }
```

The Book Class

```java
import java.io.FileWriter;

import java.io.*;

import java.io.PrintWriter;

import java.util.ArrayList;

import java.util.Scanner;



public class Book {


  private int price_of_per_day;

  private String hold;

  ArrayList<String> s1=new ArrayList<>();



  public Book( String hold,int price_of_per_day) {

    this.hold=hold;


    this.price_of_per_day = price_of_per_day;

  }
```

```java
public Book() {

    this.price_of_per_day=0;

    this.hold=null;


}



public Book(Book rent) {

    this.price_of_per_day=rent.price_of_per_day;

    this.hold=rent.hold;
    }



public String getHold() {

    return hold;
    }


public void setHold(String hold) {

    this.hold = hold;
    }
```

```java
public int getprice_of_per_day() {

    return price_of_per_day;

}


public void setprice_of_day(int price_of_per_day) {

    this.price_of_per_day = price_of_per_day;

}




public String toString()

{

    return "book
information:"+this.hold+this.price_of_per_day;

}
public void file_Book_write()throws IOException{

    FileWriter file=new FileWriter("book_info.txt",true);

    PrintWriter write=new PrintWriter(file);



    write.print(this.hold +"\t\t"+this.price_of_per_day+"\n");
```

```java
        write.close();


    }
    public void File_show_book() throws IOException
    {


        File f=new File("book_info.txt");
        Scanner print=new Scanner(f);
        System.out.printf("%10s%25s%30s%31s\n", "Book
Name","Book Type","Date of issuegs","the price of per day");
        String line;
        int count=1;
        while(print.hasNext())
        {
          line=print.nextLine();
         System.out.println(+count+"\t"+(line));
           ++count;



        }
        print.close();
```

```java
    }
    //----------------------------------------------------------------


    public  String get_Book_Info(int Book_number ) throws
FileNotFoundException, IOException
  {


    Scanner input=new Scanner(System.in);
    File f=new File("All Books.txt");
    Scanner print=new Scanner(f);
    int count=0;
  String line2;


  while(print.hasNext())
  {


    line2=print.nextLine();


    s1.add( line2);
    ++count;
  }
  while(Book_number>count&&Book_number>count)
  {
    System.out.println("wrong value ,chose the right
number");
```

```java
        File_show_All();

        Book_number =input.nextInt();

    }


    print.close();

    return s1.get(Book_number-1);

}



    public void File_show_All() throws IOException
    {
        System.out.printf("%10s%25s%26s\n", "Book Name","Book Type","Date of issuegs");

        File f=new File("All Books.txt");

        Scanner print=new Scanner(f);


int count=1;
        while(print.hasNext())
        {
            String line=print.nextLine();
            System.out.println(count+" "+(line));

            ++count;
```

```
        }
    print.close();
  }


}
```

```java
import java.io.File;

import java.io.FileWriter;

import java.io.*;

import java.io.PrintWriter;

import java.util.Locale;

import java.util.Scanner;



class Rent {
 private int time_of_rent;

private int number_of_rent_day;

private Customer_Info customers;

private Book book_info;

private double cost;



    public Rent(int number_of_rent_day, Customer_Info
customers, Book book_info,int time_of_rent) {

        this.number_of_rent_day = number_of_rent_day;

        this.customers = new Customer_Info( customers);

        this.book_info =new Book( book_info);
```

```java
        this.time_of_rent=time_of_rent;
    }


    public Rent() {
        this.number_of_rent_day=0;
        this.customers=null;
        this.book_info=null;
        this.cost=0;



    }




    public void setCost(double cost) {
        this.cost = cost;
    }


    public void setNumber_of_rent_day(int
number_of_rent_day) {
        this.number_of_rent_day = number_of_rent_day;
    }
```

```java
public void setCustomers(Customer_Info customers) {

    this.customers =new Customer_Info(customers);

}


public void setBook_info(Book book_info) {

    this.book_info =new Book( book_info);

}




public double getCost() {

    return cost;

}



public int getNumber_of_rent_day() {

    return number_of_rent_day;

}


public Customer_Info getCustomers() {

    return new Customer_Info(customers);

}
```

```java
    public Book getBook_info() {

        return new Book(book_info);

    }


    public void calc(int time_of_rent)
    {

        double dis= 0.15;

        if(time_of_rent<3){

      this.cost=
this.number_of_rent_day*book_info.getprice_of_per_day();

        }else{


            this.cost=
this.number_of_rent_day*book_info.getprice_of_per_day()*dis;

        }

    }


    public String toString()
    {

        return "coustomer information:"+this.customers+"Book
information"+this.book_info+"this cost is"+this.cost;


    }
```

```java
public void Rent_file_writer() throws IOException
{
    FileWriter wr=new FileWriter("Rent.txt",true);
    PrintWriter write=new PrintWriter(wr);
    write.print(customers.getCustomer_Name()+"\t\t");
    write.print(book_info.getHold()+"\t\t");
    write.println ( cost);


    write.close();


}

public void show_Rent_file() throws FileNotFoundException
{
    File reed=new File("Rent.txt");
    Scanner input=new Scanner(reed);
    String line;
    System.out.printf("%10s%25s%55s\n", "Customer
Name","Book info","the price");
    while(input.hasNext())
    {
        line=input.nextLine();
        System.out.println(line);
```

```
        }

    }

}
```