The code :

First Owner class:

```
package Project ;

import java.util.ArrayList;

public class Owner {

   //declaring data fields
   private String name;
   private String fname;
   private String lname;
   private String email;
   private int phonenum;
   private long nationalID;
   private int license;
   private int Age;
   private int number;
   private Car carList[]=new Car[3];

   //constructors
   Owner(){
   }
   Owner(String name){
      this.name = name;
   }

   public Owner(String fname, String lname, String email, int phonenum, long
nationalID, int license , int Age) {
    this.fname = fname;
    this.lname = lname;
    this.email = email;
    this.phonenum = phonenum;
    this.nationalID = nationalID;
    this.license = license;
    this.Age = Age;
 }

   //getters
  public String getFname() {
    return fname;
 }
 public String getLname() {
    return lname;
 }
 public String getEmail() {
```

```
    return email;
}
public int getPhonenum() {
    return phonenum;
}
public long getNationalID() {
    return nationalID;
}

public int getLicense() {
    return license;
}
public int getAge() {
    return Age;
}
public Car[] getCarlist (){
    return carList;
}

  // setters
    public void setFname(String fname) {
     this.fname = fname;
    }

    public void setLname(String lname) {
     this.lname = lname;
     }

    public void setEmail(String email) {
     this.email = email;
     }

    public void setPhonenum(int phonenum) {
     this.phonenum = phonenum;
    }

    public void setNationalID(Long nationalID) {
     this.nationalID = nationalID;
    }

    public void setLicense(int license) {
        this.license = license;
    }
    public void setAge(int Age) {
      this.Age = Age;
    }

  //Methods
```

```
   //override to the toString method
    public String toString(){
     return "Owner name:"+ fname +" "+lname +"\nvalid age"+ "\nPhone number:"+
phonenum  +"\nEmail: "+email;
    }
   //adding cars to the owner
    public void addCar(Car car){
     carList[number]= car;
     number++;
    }




}
```

Second Car class:

```
package Project;

import java.util.ArrayList;
import java.util.Scanner;
  public class Car extends Owner {
    Scanner scan = new Scanner(System.in);

   //declaring data fields
    private String company;
    private String name;
    private String mode;
    private double price;
    private int year;
    private int seats;
    private int number ;
    private Owner [] ownerslist=new Owner[1];

    //constructors
     Car(){
     }

     Car(String name ){
     this.name=name;

     }

     Car(String company, String name, int year, int seats){
      this.company = company;
        this.name = name;
        this.year = year;
        this.seats = seats;
     }
     public Car(String company, String name, String mode, double price, int
year, int seats, int number) {
        this.company = company;
        this.name = name;
        this.mode = mode;
        this.price = price;
        this.year = year;
        this.seats = seats;
        this.number = number;
     }



    //getters
   public String getCompany() {
```

```
 return company;
}
public String getName() {
 return name;
}
public String getMode() {
 return mode;
}
public double getPrice() {
 return price;
}
public int getYear() {
 return year;
}
public int getSeats() {
 return seats;
}
public Owner[] getOwnerslist() {
 return ownerslist;
}

//setters
public void setCompany(String company) {
 this.company = company;
}
public void setName(String name) {
 this.name = name;
}
public void setMode(String mode) {
 this.mode = mode;
}
public void setPrice(double price) {
 this.price = price;
}
public void setYear(int year) {
 this.year = year;
}
public void setSeats(int seats) {
 this.seats = seats;
}
public void setOwnerslist(Owner[] ownerslist) {
 this.ownerslist = ownerslist;
}



//methods
```

```
// first one to add owner to the cars
public void addOwner(Owner owner){
   ownerslist[number]=owner;
   number++;
}
 //type of cars in array List
public String TypeList(){
 ArrayList<String> types=new ArrayList<String>();
 types.add("1:Sport");
 types.add("2:Luxury");
 types.add("3:Economy");
 System.out.print(types+"\n");
 return "s";

 }

}
```

Third Renter class:

```
package Project;

public class Renter extends Car {

     //data fields
     private int age;
     private String name;
     private String lname;
     private String email;
     private int phonenum;
     private int license;
     private long nationalID;

     //constructors
     Renter() {

     }
      Renter(int age, String name, String lname, String email, int phonenum,
int license, long nationalId) {
      this.age = age;
      this.name = name;
      this.lname = lname;
      this.email = email;
      this.phonenum = phonenum;
      this.license = license;
      this.nationalID = nationalID;

     }


     //getters
     public String getName() {
        return name;
     }
     public String getLname() {
      return lname;
     }
     public int getAge() {
        return age;
     }
      public String getEmail() {
      return email;
     }
     public int getPhonenum() {
      return phonenum;
     }
     public long getNationalID() {
```

```
 return nationalID;
}

public int getLicense() {
 return license;
}



//setters

public void setAge(int age) {
 this.age = age;
 }
 public void setName(String name) {
   this.name = name;
 }
public void setLname(String lname) {
 this.lname = lname;
 }

public void setEmail(String email) {
 this.email = email;
 }

public void setPhonenum(int phonenum) {
 this.phonenum = phonenum;
}

public void setNationalID(long nationalID) {
 this.nationalID = nationalID;
}

public void setLicense(int license) {
    this.license = license;
}




//methods


 // to check if Age above 18
    public void ValidAge(){
    System.out.println("\nplease enter your age:");
    int age = scan.nextInt();
    if (age<18) {
    System.out.println("you can't sign up when under 18");
```

```
         return;
         }}

     //override to the toString method
       public String toString(){
       return "Owner name: "+ name +" "+lname +"\nvalid age"+"\nEmail:
"+email+ "\nPhone number: "+ phonenum  +"";
       }


      //calculate price method

     public void rentPrice(){
     System.out.println("please choose what type of car you prefer :");
     TypeList();
     int x = scan.nextInt();

     if (x == 1){
     System.out.println("The price for the sport's car : 90 JD for full
day\n"+"\nplease enter for how many days you will rent the Sport car :" );
     int i = scan.nextInt();
     System.out.println("The price for "+i+" days is: "+ i*90+"JD");

     }
     else if (x == 2){
     System.out.println("The price for the luxury car : 65 JD for full day\n"
+"please enter for how many days you will rent the luxury car :");
     int i = scan.nextInt();
     System.out.println("The price for "+i+" days is: " + i*65+"JD");

     }
     else if (x == 3){
      System.out.println("The price for the economy car : 35 JD for full
day\n"+"\nplease enter for how many days you will rent the Economy car :" );
      int i = scan.nextInt();
      System.out.println("The price for "+i+" days is: " + i*35 +"JD");

      }
     }



}
```

Fourth Insurance class:

```
package Project;

import java.util.ArrayList;

public class Insurance extends Car {
    static String name;
    private String model_of_car;
    private int date_of_rent;
    private int fees;
    private int monthssCoverd;

     Insurance() {

     }

     Insurance (String name , String moc ,int dor ,int fees ,int
monthssCoverd) {
        this.name = name;
        model_of_car = moc;
        date_of_rent = dor;
        this.fees = fees;
        this.monthssCoverd = monthssCoverd;
     }
      //getters

     public String getName() {
     return name;
     }
     public String getmodel_of_car() {
     return model_of_car;
      }
      public int getDate_of_rent (){
       return  date_of_rent ;

     }
     public int getFees() {

     return fees;
     }
     public int getMonthsCoverd(){
     return monthssCoverd;

     }

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

```
     }
     public void setModel_of_car (String moc) {
        model_of_car = moc;

     }
     public void setDate_of_rent (int dor){
    date_of_rent = dor;

    }
    public void setFees (int fees) {
    this.fees = fees;

    }
    public void setMonthsCoverd (int daysCoverd){
     this.monthssCoverd = monthssCoverd;
    }
    //Methods
    //Method to know whether the car have insurance or not
    public boolean isProvided(){
    ArrayList<String> coverdcars = new ArrayList<String>();
     coverdcars.add("1:Toyota");
     coverdcars.add("2:BMW");
     coverdcars.add("3:Mercedes");
     coverdcars.add("4:Honda");


     System.out.println("\nenter the number of the company you want:\n
"+coverdcars);
     int x = scan.nextInt();

     if (x==1){
       System.out.print( "is Toyota company coverd?"+
coverdcars.contains("1:Toyota"));
     }
     else if (x ==2){
       System.out.print( "is BMW company coverd? "+
coverdcars.contains("2:BMW"));
     }
     else if (x==3){
     System.out.print( "is Mercedes company coverd? "+
coverdcars.contains("3:Mercedes"));
      }
    else if (x==4){
      System.out.print( "is Honda company coverd? "+
coverdcars.contains("4:Honda"));
      }
     return false;
    }
```

```
    //method to know how much damage the insurance cover
    public double getCovarage(double fees){
      System.out.println("\nEnter how many accidents:");
      int i = scan.nextInt();
      double z = (fees - 75);
      double x = (fees - 100);
      double y = (fees- 125);

      if (i==1){
        System.out.print( "the insurance for one accident covers up to:
"+z+"JD\n");
      }
      else if (i ==2){
        System.out.print( "the insurance for one accident covers up to:
"+x+"JD\n");
      }
      else if (i==3){
      System.out.print( "the insurance for one accident covers up to:
"+y+"JD\n");
       }
      return i;

    }



}
```

The Main class:

```
package Project;

import java.util.*;



public class Userstd {

    public static void main(String[] args) {


   //object from Owner class
    Owner o1 = new Owner("john", "doe", "johnm@gmail.com", 778590372,
65748766577L, 784848884, 20);
   //objects from Car class
    Car a=new Car("camry" );
    Car b=new Car("G-class");
    Car c=new Car("cayman");
    //disply the Owner info
    System.out.println(o1.toString()+"\n");

    //adding Owner to the cars
    a.addOwner(o1);

    //adding cars to the owner
    o1.addCar(a);
    o1.addCar(b);
    o1.addCar(c);

    //disply car owner
    System.out.println("owner:");
    for(int i=0;i<a.getOwnerslist().length;i++)
    System.out.println(a.getOwnerslist()[i].getFname());


    //disply cars that belong to the owner
    System.out.println("\nList of cars for the owner:");
    for(int i=0;i<o1.getCarlist().length;i++)
    System.out.println(o1.getCarlist()[i].getName());

    //checking the renter age
    new Renter().ValidAge();
    //object from renter class
    Renter r=new Renter(20, "jane", "doe", "janeoe@gamil.com", 707456463,
948570382, 87578878435L);
    //display the renter info
    System.out.println("\n"+r.toString()+"\n");
```

```
    //getting the price for the wanted car
    new Renter().rentPrice();

   //checking which compines have insurance
    new Insurance().isProvided();


   //check how much the insurance cover for accidents
    new Insurance().getCovarage(250);

    //object from the class Insurance
  Insurance t = new Insurance("gulf company", "hybird", 6 , 300, 6);

  //display insurance company info
  System.out.printf("\ncompany name:%s\ncoverd type of car is:%s\nday of
rent:%sth of may\nfees the company cover is up to:%sJD\nmonths coverd:%s
months\n",t.getName(),t.getmodel_of_car(),t.getDate_of_rent(),t.getFees(),t.ge
tMonthsCoverd());




}
}
```

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