Question 1.1

Notebook.java

public class Notebook  
{  
 private String name,code;  
 private double Cprice,Sprice;  
   
 //Default constructor  
 public Notebook()  
 {  
 name="";  
 code="";  
 Cprice=0.00;  
 Sprice=0.00;  
 }  
   
 //Normal constructor  
 public Notebook(String nm,String cd,double cp,double sp)  
 {  
 name=nm;  
 code=cd;  
 Cprice=cp;  
 Sprice=sp;  
 }  
   
 //Copy constructor  
 public Notebook(Notebook n)  
 {  
 n.name=name;  
 n.code=code;  
 n.Cprice=Cprice;  
 n.Sprice=Sprice;  
 }  
   
 //Setter or Mutator constructor  
 public void setAllData(String nm,String cd,double cp,double sp)  
 {  
 name=nm;  
 code=cd;  
 Cprice=cp;  
 Sprice=sp;  
 }  
   
 //Accessor constructor  
 public String getName()  
 {  
 return name;  
 }  
   
 public String getCode()  
 {  
 return code;  
 }  
   
 public double getCprice()  
 {  
 return Cprice;  
 }  
   
 public double getSprice()  
 {  
 return Sprice;  
 }  
   
 public String toString()  
 {  
 return("\nName :"+name+"\nCode :"+code+"\nCost Price :"+Cprice+"\nSelling Price :"+Sprice);  
 }  
   
 public double discountPrice(double disrate)  
 {  
 double disSellPrice;  
 disSellPrice=Sprice-(Sprice\*disrate);  
 return disSellPrice;  
 }  
   
 public double percentageProfit()  
 {  
 double profitPercent=((Sprice-Cprice)/Cprice)\*100;  
 return profitPercent;  
 }  
}

NotebookApp.java

import java.util.Scanner;  
public class NotebookApp  
{  
 public static void main(String[] args)  
 {  
 Scanner scan1=new Scanner(System.in);  
 Scanner scan2=new Scanner(System.in);  
   
 System.out.println("Enter size of Array :");  
 int size=scan2.nextInt();  
   
 Notebook ntbook[]=new Notebook[size];//Array of object declaration  
 for(int i=0;i<size;i++)//Array of object instantiate  
 {  
 ntbook[i]=new Notebook();  
 }  
   
 int countntbook=0;  
 double totdisprice=0;  
 for(int j=0;j<size;j++)  
 {  
 System.out.println("Enter name :");  
 String name=scan1.nextLine();  
 System.out.println("Enter code :");  
 String code=scan1.nextLine();  
 System.out.println("Enter Cost Price :");  
 double Cprice=scan2.nextDouble();  
 System.out.println("Enter Selling Price :");  
 double Sprice=scan2.nextDouble();  
 System.out.println("Enter Discount rate :");  
 double disrate=scan2.nextDouble();  
   
  
 //Store date on to Normal constructor  
 ntbook[j]=new Notebook(name,code,Cprice,Sprice);  
 System.out.println(ntbook[j].toString());  
 double priceAdiscount=ntbook[j].discountPrice(disrate);  
 System.out.println("Price after discount :"+priceAdiscount);  
 double profitPercent=ntbook[j].percentageProfit();  
   
 if(name.equalsIgnoreCase("DELL"))  
 countntbook++;  
 else   
 countntbook=countntbook;  
   
 totdisprice=totdisprice+priceAdiscount;  
   
   
 }  
 System.out.println("\nTotal DELL :"+countntbook);  
 System.out.println("Total discount selling price :"+totdisprice);  
   
   
 }  
}

I/O Output

 ----jGRASP exec: java NotebookApp  
Enter size of Array :  
5  
Enter name :  
DELL  
Enter code :  
DL132  
Enter Cost Price :  
2000  
Enter Selling Price :  
2500  
Enter Discount rate :  
0.05  
  
Name :DELL  
Code :DL132  
Cost Price :2000.0  
Selling Price :2500.0  
Price after discount :2375.0  
Enter name :  
ASUS  
Enter code :  
GL553  
Enter Cost Price :  
3000  
Enter Selling Price :  
3500  
Enter Discount rate :  
0.05  
  
Name :ASUS  
Code :GL553  
Cost Price :3000.0  
Selling Price :3500.0  
Price after discount :3325.0  
Enter name :  
DELL  
Enter code :  
DL111  
Enter Cost Price :  
2300  
Enter Selling Price :  
2800  
Enter Discount rate :  
0.05  
  
Name :DELL  
Code :DL111  
Cost Price :2300.0  
Selling Price :2800.0  
Price after discount :2660.0  
Enter name :  
LENOVO  
Enter code :  
LE211  
Enter Cost Price :  
4000  
Enter Selling Price :  
4500  
Enter Discount rate :  
0.10  


Name :LENOVO  
Code :LE211  
Cost Price :4000.0  
Selling Price :4500.0  
Price after discount :4050.0  
Enter name :  
DELL  
Enter code :  
DL545  
Enter Cost Price :  
2000  
Enter Selling Price :  
2500  
Enter Discount rate :  
0.05  
  
Name :DELL  
Code :DL545  
Cost Price :2000.0  
Selling Price :2500.0  
Price after discount :2375.0  
Total DELL :3  
Total discount selling price :14785.0  
  
 ----jGRASP: operation complete.  


Question 1.2

Flight.java

public class Flight  
{  
 private String name,airName,fnum,foriginDes;  
   
 public Flight()  
 {  
 name="";  
 airName="";  
 fnum="";  
 foriginDes="";  
 }  
   
 public Flight(String n,String an,String fno,String fod)  
 {  
 name=n;  
 airName=an;  
 fnum=fno;  
 foriginDes=fod;  
 }  
   
 public void setAllData(String n,String an,String fno,String fod)  
 {  
 name=n;  
 airName=an;  
 fnum=fno;  
 foriginDes=fod;  
 }  
   
 public String getName()  
 {  
 return name;  
 }  
   
 public String getAirName()  
 {  
 return airName;  
 }  
   
 public String getFnum()  
 {  
 return fnum;  
 }  
   
 public String getfOriginDes()  
 {  
 return foriginDes;  
 }  
   
 public String toString()  
 {  
 return ("\nName :"+name+"\nAirline Name :"+airName+"\nFlight Number :"+fnum+"\nFlight's Origin and Destination :"+foriginDes);  
 }  
   
 public double charge(float numPerson)  
 {   
   
 double totprice,tixprice,dis;  
 double price=0;  
 char a=fnum.charAt(0);  
 char b=fnum.charAt(1);  
 if(a=='A' && b=='K')  
 {price=180.0;}  
 else if(a=='P' && b=='K')  
 {price=150.0;}  
 else if(a=='J' && b=='K')  
 {price=160.0;}  
 else if (a=='K' && b=='K')  
 {price=250.0;}  
 else if(a=='T' && b=='K')  
 {price=190.0;}  
   
 tixprice=numPerson\*price;  
   
 if(tixprice>1000)  
 dis=tixprice\*0.05;  
 else  
 dis=0;  
   
 totprice=tixprice-dis;  
 return totprice;  
 }  
   
   
}

FlightApp.java

import java.util.Scanner;  
public class FlightApp  
{   
 public static void main(String[] args)  
 {  
   
 Scanner scan1=new Scanner(System.in);  
 Scanner scan2=new Scanner(System.in);  
   
 Flight fgt[]=new Flight[100];  
 for(int i=0;i<100;i++)  
 {  
 fgt[i]=new Flight();  
 }  
  
 double charges=0,totcharge=0;  
 double highest=0;  
 int j=0,index=0,count=0;  
   
 do  
 {  
 System.out.println("Enter Name :");  
 String name=scan1.nextLine();  
 System.out.println("Enter Airline Name :");  
 String airName=scan1.nextLine();  
 System.out.println("Enter Flight Number :");  
 String fnum=scan1.nextLine();  
 System.out.println("Enter Flight's Origin and Destination :");  
 String foriginDes=scan1.nextLine();  
   
 fgt[j]=new Flight(name,airName,fnum,foriginDes);  
   
 System.out.println("Enter number of person :");  
 int numPerson=scan2.nextInt();  
 charges=fgt[j].charge(numPerson);  
   
 if(charges>highest)  
 {  
 highest=charges;  
 index=j;  
 }  
   
 if(charges>2000)  
 {  
 count=count+1;  
 totcharge=totcharge+charges;  
 }  
 else  
 {  
 totcharge=totcharge+charges;  
 }  
   
 j++;  
 }while(j<100);  
   
 System.out.println("Total charge received :"+totcharge);  
 System.out.println("Number Customer that paid more than RM2000 :"+count);  
 System.out.println("Customer who paid highest price :"+fgt[index].toString());  
  
 }  
  
}

I/O Output (Size array = 5)

 ----jGRASP exec: java FlightApp  
Enter Name :  
MUHD AL AMIN   
Enter Airline Name :  
MAS  
Enter Flight Number :  
AK134  
Enter Flight's Origin and Destination :  
ALOR SETAR - KUALA LUMPUR  
Enter number of person :  
10 //Total 1800-5%=1710  
Enter Name :  
AHMAD SHAH  
Enter Airline Name :  
AirAsia  
Enter Flight Number :  
PK111  
Enter Flight's Origin and Destination :  
PENANG - KUALA LUMPUR  
Enter number of person :  
16 //Total 2400-5%=2280  
Enter Name :  
WILSON CHONG  
Enter Airline Name :  
FireFly  
Enter Flight Number :  
JK987  
Enter Flight's Origin and Destination :  
JOHOR - KUALA LUMPUR  
Enter number of person :  
1 //Total 160  
Enter Name :  
SINTHIA SABRAMANIAM  
Enter Airline Name :  
MAS  
Enter Flight Number :  
KK342  
Enter Flight's Origin and Destination :  
KOTA KINABALU - KUALA LUMPUR  
Enter number of person :  
9 //Total 2250-5%=2137.5  
Enter Name :  
ADAM MUHAMMAD  
Enter Airline Name :  
FireFly  
Enter Flight Number :  
TK764  
Enter Flight's Origin and Destination :  
TERENGGANU - KUALA LUMPUR  
Enter number of person :  
2 //Total 380  
Total charge received :6667.5  
Number Customer that paid more than RM2000 :2  
Customer who paid highest price :  
Name :AHMAD SHAH  
Airline Name :AirAsia  
Flight Number :PK111  
Flight's Origin and Destination :PENANG - KUALA LUMPUR  
  
 ----jGRASP: operation complete.

Question 1.2

Longjump.java

class Longjump  
{  
 private int id;  
 private String name,code;  
 private double[] jump=new double[2];

public Longjump(int i,String nm,String cd,double[] j)  
 {  
 id=i;  
 name=nm;  
 code=cd;  
 for(int n=0;n<2;n++)  
 jump[n]=j[n];  
 }  
public void setAllData(int i,String nm,String cd,double[] j)  
 {  
 id=i;  
 name=nm;  
 code=cd;  
 for(int n=0;n<2;n++)  
 jump[n]=j[n];  
 }

public int getId()  
 {  
 return id;  
 }  
public String getName()  
 {  
 return name;  
 }  
public String getCode()  
 {  
 return code;  
 }  
public double[] getJump()  
 {  
 return jump;  
 }  
public double calcAverage()  
 {  
 double avgdis;  
 avgdis=(jump[0]+jump[1])/2;  
 return avgdis;  
 }  
public String detStatus(double avgdis1)  
 {  
 String status=null;  
 if(avgdis1>=7.00)  
 status="qualified";  
 else if (avgdis1>=5.00 && avgdis1<7.00)  
 status="reserve";  
 else if (avgdis1<5)  
 status="disqualifies";  
 return status;  
 }  
public String toString()  
 {  
return("\nId :"+id+"\nName :"+name+"\nCode :"+code+"\nJump 1 :"+jump[0]+"\nJump 2 :"+jump[1]);}}

LongjumpApp.java

import java.util.Scanner;  
public class LongjumpApp  
{  
 public static void main(String[] args)  
 {  
   
 Scanner scan1=new Scanner(System.in);  
 Scanner scan2=new Scanner(System.in);  
   
 System.out.println("Enter how many athlete :");  
 int num=scan1.nextInt();  
 Longjump[] athlete=new Longjump[num];  
 double[] jump=new double[2];  
   
 for(int y=0;y<num;y++)  
 {  
 System.out.println("Enter athlete ID :");  
 int id=scan1.nextInt();  
 System.out.println("Enter Name :");  
 String name=scan2.nextLine();  
 System.out.println("Enter Team Code :");  
 String code=scan2.nextLine();  
 for(int w=0;w<2;w++)  
 {  
 System.out.println("Enter jump "+(w+1)+" distance :");  
 jump[w]=scan1.nextDouble();  
 }  
 athlete[y]=new Longjump(id,name,code,jump);  
   
 }  
   
 String status1;  
 double avgdis1;  
 double highest=0,lowest=100;  
 int h=0,l=0;  
 System.out.println("\nAthlete who qualified :");  
 for(int z=0;z<num;z++)  
 {   
 avgdis1=athlete[z].calcAverage();  
 status1=athlete[z].detStatus(avgdis1);  
   
 if(status1.equalsIgnoreCase("qualified"))  
 {  
 System.out.println(athlete[z].toString());  
 }  
   
 if(avgdis1>highest)  
 {  
 highest=avgdis1;  
 h=z;  
 }  
   
 if(avgdis1<lowest)  
 {  
 lowest=avgdis1;  
 l=z;  
 }  
   
 }  
 System.out.println("\nAthlete who get highest average jump :");  
 System.out.println(athlete[h].toString());  
 System.out.println("\nAthlete who get lowest average jump :");  
 System.out.println(athlete[l].toString());  
 }}  
  
I/O Output

 ----jGRASP exec: java LongjumpApp  
Enter how many athlete :  
5  
Enter athlete ID :  
1344  
Enter Name :  
Amin Zaini  
Enter Team Code :  
CSC  
Enter jump 1 distance :  
7.2  
Enter jump 2 distance :  
7.8  


Enter athlete ID :  
5633  
Enter Name :  
Amran Im  
Enter Team Code :  
FPP  
Enter jump 1 distance :  
3  
Enter jump 2 distance :  
4  
  
Athlete who qualified :  
  
Id :1344  
Name :Amin Zaini  
Code :CSC  
Jump 1 :7.2  
Jump 2 :7.8  
  
Id :2991  
Name :Wong Chee  
Code :ACC  
Jump 1 :7.0  
Jump 2 :7.1  
  
Athlete who get highest average jump :  
  
Id :1344  
Name :Amin Zaini  
Code :CSC  
Jump 1 :7.2  
Jump 2 :7.8  
  
Athlete who get lowest average jump :  
  
Id :5633  
Name :Amran Im  
Code :FPP  
Jump 1 :3.0  
Jump 2 :4.0  
  
 ----jGRASP: operation complete.

Enter athlete ID :  
1672  
Enter Name :  
Adam Ray  
Enter Team Code :  
APP  
Enter jump 1 distance :  
6  
Enter jump 2 distance :  
6.8  


Enter athlete ID :  
4566  
Enter Name :  
Hasyim Ahmad  
Enter Team Code :  
MAT  
Enter jump 1 distance :  
5  
Enter jump 2 distance :  
6.3  


Enter athlete ID :  
2991  
Enter Name :  
Wong Chee  
Enter Team Code :  
ACC  
Enter jump 1 distance :  
7.0  
Enter jump 2 distance :  
7.1  




**FACULTY OF COMPUTER SCIENCE AND MATHEMATICS**

**CS110**

Lab Assignment 2: Basic Concept of Classes & Intermediate Classes

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COURSE CODE: CSC238