WEEK 6

1. Create a class Customer with the following specifications.

Private Members :

Customer_no , Customer_name, Qty , Price, TotalPrice, Discount, Netprice.

Methods: Public members:

1. A parameterized constructor to assign initial
2. Input( ) – to read data members. Call Caldiscount().
3. Caldiscount ( ) – To calculate Discount according to TotalPrice and NetPrice

TotalPrice = Price*Qty

TotalPrice >=50000 – Discount 25% of TotalPrice

TotalPrice >=25000 - Discount 10% of TotalPrice

Netprice= TotalPrice-Discount

4.Show( ) – to display Customer details.

Develop a Java program to accept details of n customers, calculate the discounts given to them and print their complete details.

```
import java.util.Scanner;

class Customer{
private int cust_no;
private String cust_name;
private int quantity;
private float price;
private float total_price,discount,net_price;

Customer(){}

Customer(int no,String name,int qua,float pri){
cust_no=no;
cust_name=name;
quantity=qua;
price=pri;
total_price=quantity*price;
}

void input(){
```

```
Scanner s=new Scanner(System.in);
System.out.println("Enter customer number,customer name,item quantity,item price");
cust_no=s.nextInt();
cust_name=s.next();
quantity=s.nextInt();
price=s.nextFloat();
total_price=quantity*price;
}

void calDiscount(){
if(total_price>=50000){
discount=(float)(total_price*0.25);
}else if(total_price>=25000){
discount=(float)(total_price*0.1);
}else{
discount=0;
}
net_price=total_price-discount;
}

void show(){
System.out.println("-----Customer Details--------");
System.out.println("\n\nCustomer number: "+cust_no+"\nCustomer name:
"+cust_name+"\nQuantity: "+quantity+"\nItem price: "+price+"\nTotal price:
"+total_price+"\nDiscount: "+discount+"\nNet price: "+net_price+"\n\n");
}

}

class Lab_6{
public static void main(String x[]){
Scanner s=new Scanner(System.in);
System.out.println("Enter number of objects to be created");
int n=s.nextInt();
Customer[] c=new Customer[n];
for(int i=0;i<n;i++){
System.out.println("Enter customer number,customer name,item quantity,item price");
int no=s.nextInt();
String name=s.next();
int qua=s.nextInt();
float pr=s.nextFloat();
c[i]=new Customer(no,name,qua,pr);
c[i].calDiscount();
}
```

```
for(int i=0;i<n;i++){
c[i].show();
}

}

}
```

```
3
Enter customer number,customer name,item quantity,item price
1 qwe 5 5000
Enter customer number,customer name,item quantity,item price
2 rty 3 10000
Enter customer number,customer name,item quantity,item price
3 yui 6 20000
-----Customer Details--------


Customer number: 1
Customer name: qwe
Quantity: 5
Item price: 5000.0
Total price: 25000.0
Discount: 2500.0
Net price: 22500.0


-----Customer Details--------


Customer number: 2
Customer name: rty
Quantity: 3
Item price: 10000.0
Total price: 30000.0
Discount: 3000.0
Net price: 27000.0


-----Customer Details--------


Customer number: 3
Customer name: yui
Quantity: 6
Item price: 20000.0
Total price: 120000.0
Discount: 30000.0
Net price: 90000.0
```

2.

Develop a Java program to create a classPatient with data members pt_id, pt_name, pt_age, doc.

The program should include the following functionalities.

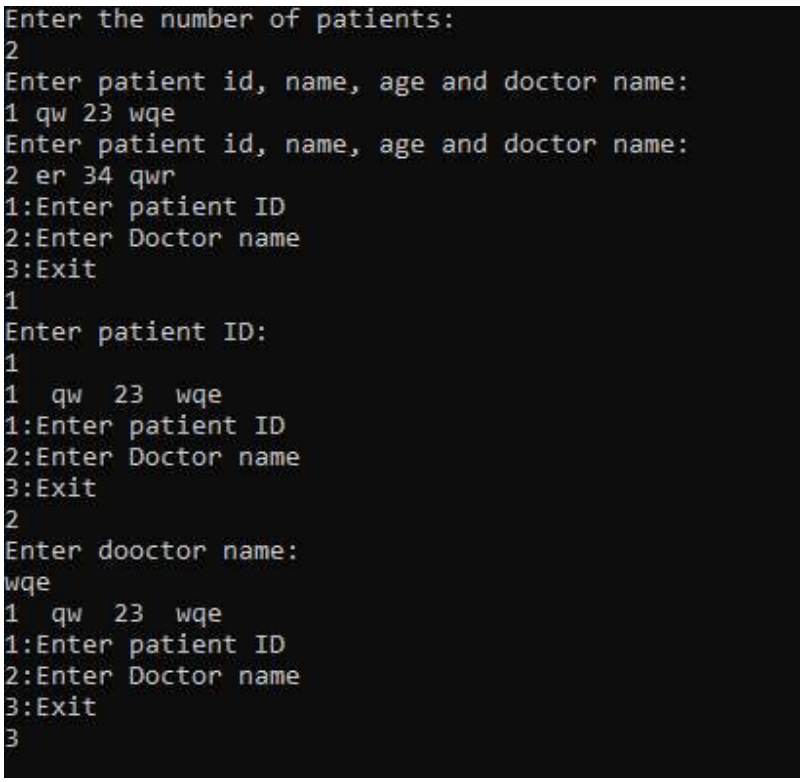
· Accept n patient details.

· Accept a patient id and display his/her details.

· Accept the name of the doctor and display the names of all the patients treated by him/her.

```
import java.util.Scanner;

class Patient{
int p_id;
String p_name;
int p_age;
String doc;

void set(){
System.out.println("Enter patient ID, name, age and attending doctor");
Scanner s=new Scanner(System.in);
p_id=s.nextInt();
p_name=s.next();
p_age=s.nextInt();
doc=s.next();
}

void display(){
System.out.println("----Patient Details----\n");
System.out.println("Patient ID: "+p_id+"\nPatient name: "+p_name+"\nAge:
"+p_age+"\nAttending doctor: "+doc);
}
}

class Lab_62{
public static void main(String x[]){

System.out.println("Enter number of patients");
Scanner s=new Scanner(System.in);
int n=s.nextInt();
Patient[] p=new Patient[n];
```

```
for(int i=0;i<n;i++){
p[i]=new Patient();
p[i].set();
}
int choice;
do{
System.out.println("Enter choice\n1.Patient details\n2.Patients grouped by doctor\n3.Exit");
choice=s.nextInt();
if(choice==1){
System.out.println("Enter patient ID");
int id=s.nextInt();
int i;
for(i=0;i<n;i++){
if(p[i].p_id==id){
p[i].display();
break;
}
}
if(i==n){
System.out.println("Patient died");
}
}
else if(choice==2){
System.out.println("Enter doctor name");
int i;
String d=s.next();
for(i=0;i<n;i++){
if(p[i].doc==d){
System.out.println(p[i].p_name);
break;
}
}
if(i==n){
System.out.println("Doctor died");
}
}
}while(choice!=3);

}
}
```



3.

Create an abstract class Calculate which has three double members -say x, y and result. Include a method calc. Derive three classes
from Calculate which performs any three arithmetic operations on the two variables x and y and assign the result to the variable result.
Make appropriate declarations and definitions.

```
import java.util.Scanner;

abstract class Calculate{
   double x,y,result;
   abstract void calc();
}

class Addition extends Calculate{
   void calc(){
      System.out.println("Enter two numbers x and y for addition : ");
      Scanner SS = new Scanner(System.in);
      x = SS.nextDouble();
      y = SS.nextDouble();
      result = x + y;
      System.out.println("Addition of " + x + " and "+ y + " is : " + result);
```

```
        }
    Addition(){}
}

class Subtraction extends Calculate{
    void calc(){
        System.out.println("Enter two numbers x and y for subtraction : ");
        Scanner SS = new Scanner(System.in);
        x = SS.nextDouble();
        y = SS.nextDouble();
        result = x - y;
        System.out.println("Subtraction of " + x + " and "+ y +  " is : " + result);
        }
    Subtraction(){}
}

class Multiplication extends Calculate{
    void calc(){
        System.out.println("Enter two numbers x and y for multiplication : ");
        Scanner SS = new Scanner(System.in);
        x = SS.nextDouble();
        y = SS.nextDouble();
        result = x * y;
        System.out.println("Multiplication of " + x + " and "+ y +  " is : " + result);
        }
    Multiplication(){}
}

class Division extends Calculate{
    void calc(){
        System.out.println("Enter two numbers x and y for dividion : ");
        Scanner SS = new Scanner(System.in);
        x = SS.nextDouble();
        y = SS.nextDouble();
        result = x / y;
        System.out.println("Division of " + x + " and "+ y + " is : " + result);
        }
    Division(){}
}

class Three{
    public static void main(String XX[]){
        Addition A = new Addition();
        A.calc();
```

```
        Subtraction S = new Subtraction();
        S.calc();
        Multiplication M = new Multiplication();
        M.calc();
        Division D = new Division();
        D.calc();
        }
}
```

```
Enter two numbers x and y for addition :
1 2
Addition of 1.0 and 2.0 is : 3.0
Enter two numbers x and y for subtraction :
1 2
Subtraction of 1.0 and 2.0 is : -1.0
Enter two numbers x and y for multiplication :
1 2
Multiplication of 1.0 and 2.0 is : 2.0
Enter two numbers x and y for dividion :
1 2
Division of 1.0 and 2.0 is : 0.5
```