

/*M Gayathri-185001050

1. Write a java program with a class named 'Box' with following parameters
name of the parcel,

length, width and height and a function to calculate volume of box.

*/

```
import java.util.Scanner;
```

```
class Box
```

```
{
```

```
    String parcel;
```

```
    double length,width,height,vol;
```

```
    Box(double l,double b,double h)
```

```
    {
```

```
        length=l;
```

```
        width=b;
```

```
        height=h;
```

```
    }
```

```
    void volume()
```

```
    {
```

```
        //double vol;
```

```
        vol=length*width*height;
```

```
    }
```

```
}
```

```
class Boxweight extends Box
```

```
{
```

```
    double weight;
```

```
    String nameop;
```

```
    Boxweight(String nameop,double l,double b,double h,double w)
```

```
    {
```

```
        super(l,b,h);
```

```
        nameop=nameop;
```

```
        volume();
```

```
        weight=w/1000;
```

```
    }
```

```
}
```

```
class Boxshipment extends Boxweight
```

```
{
```

```
    double cost;
```

```
    Boxshipment(String nameop,double l,double b,double h,double w,double
```

c)

```
    {
```

```
        super(nameop,l,b,h,w);
```

```
        cost=c*weight;
```

```
    }
```

```
    void display()
```

```
    {
```

```
        System.out.println("Name of the parcel:"+nameop);
```

```
        System.out.println("Volume:"+vol);
```

```
        System.out.println("Cost:"+cost);
```

```
    }
```

```
}
```

```
class Voln
```

```
{
```

```
    public static void main(String arg[])
```

```
    {
```

```
        Scanner in=new Scanner(System.in);
```

```
        System.out.println("enter no of boxes");
```

```
        int n=in.nextInt();
```

```
        int temp=n,i=0;
```

```
        Boxshipment []bs=new Boxshipment[n];
```

```
        while(n!=0)
```

```

        {
            String t=in.nextLine();
            System.out.println("enter the name of parcel");
            String namep=in.nextLine();
            System.out.println("enter length,breadth,height,weight
and cost");
            double l=in.nextDouble();
            double b=in.nextDouble();
            double h=in.nextDouble();
            double w=in.nextDouble();
            double c=in.nextDouble();
            bs[i]=new Boxshipment(namep,l,b,h,w,c);
            i++;
            n--;
        }
        for(int j=0;j<temp;j++)
        {
            bs[j].display();
        }
    }
}
/*Sample input/output

```

```

C:\Users\gayathri\Desktop>java Voln
enter no of boxes
3
enter the name of parcel
box1
enter length,breadth,height,weight and cost
2 3 4 5000 50
enter the name of parcel
box2
enter length,breadth,height,weight and cost
1 2 3 6000 30
enter the name of parcel
box3
enter length,breadth,height,weight and cost
3 4 5 4000 40
Name of the parcel:box1
Volume:24.0
Cost:250.0
Name of the parcel:box2
Volume:6.0
Cost:180.0
Name of the parcel:box3
Volume:60.0
Cost:160.0

*/

```

```

/*2.Develop a java application with Employee class with Emp_name,
Emp_id, Address, Mail_id, Mobile_no as members.
Inherit the classes, Programmer, Assistant Professor, Associate
Professor and Professor from employee class. */
import java.util.Scanner;
import java.lang.*;
class Employee

```

```

{
    String emp_name,address,mail_id,mobile_no;
    int emp_id;
    double gross_sal,netsal,deductions;
    Scanner in=new Scanner(System.in);
    Employee()
    {
        System.out.println("enter employee name,address,mail
id,mobile number and employee id ");
        emp_name=in.nextLine();
        address=in.nextLine();
        mail_id=in.nextLine();
        mobile_no=in.nextLine();
        emp_id=in.nextInt();
        //des=in.nextLine();
    }
    void calculatenet(String des)
    {
        double bp,allowance;
        System.out.println("enter basic pay");
        bp=in.nextDouble();
        double da=0.17*bp;
        double hra=0.1*bp;
        double pf=0.12*bp;
        double fund=0.001*bp;
        if(des.compareTo("Programmer")==0)
            allowance=2000;
        else if(des.compareTo("Assistantprofessor")==0)
            allowance=5000;
        else if(des.compareTo("Associateprofessor")==0)
            allowance=10000;
        else
            allowance=15000;
        gross_sal=bp+da+hra;
        deductions=pf+fund;
        netsal=gross_sal-deductions+allowance;
    }
    void display()
    {
        System.out.println("Employee name:"+emp_name);
        System.out.println("Employee id:"+emp_id);
        System.out.println("Adress:"+address);
        System.out.println("Mail_id:"+mail_id);
        System.out.println("Moile number:"+mobile_no);

        System.out.println("Gross salary:"+gross_sal);
        System.out.println("Net salary:"+netsal);
    }
}

class Programmer extends Employee
{
    Programmer(String des)
    {
        calculatenet(des);
    }
}

class Assistantprofessor extends Employee
{

```

```

        Assistantprofessor(String des)
        {
            calculatenet(des);
        }
    }
    class Associateprofessor extends Employee
    {
        Associateprofessor(String des)
        {
            calculatenet(des);
        }
    }
    class Professor extends Employee
    {
        Professor(String des)
        {
            calculatenet(des);
        }
    }
}
class Pay
{
    public static void main(String arg[])
    {
        Scanner in=new Scanner(System.in);
        String emp_name,address,mail_id,mobile_no,des,t;
        int emp_id,n,i=0,temp;
        System.out.println("enter number of employees");
        n=in.nextInt();
        t=in.nextLine();
        temp=n;
        Employee []e=new Employee[n];
        while(n!=0)
        {
            System.out.println("\n");
            System.out.println("enter designation of
employee");
            des=in.nextLine();
            if(des.compareTo("Programmer")==0)
                e[i]=new Programmer(des);
            else if(des.compareTo("Assistantprofessor")==0)
                e[i]=new Assistantprofessor(des);
            else if(des.compareTo("Associateprofessor")==0)
                e[i]=new Associateprofessor(des);
            else
                e[i]=new Professor(des);
            n--;
            i++;
        }
        for(int j=0;j<temp;j++)
        {
            System.out.println("\n");
            e[j].display();
        }
    }
}

```

/* Sample input/output
C:\Users\gayathri\Desktop>java Pay

enter number of employees
3

enter designation of employee
Professor
enter employee name,address,mail id,mobile number and employee id
Hema
Arumbakkam
hema@gmail.com
9876543210
33
enter basic pay
40000

enter designation of employee
Programmer
enter employee name,address,mail id,mobile number and employee id
Yami
Velacheri
yami@yahoo.com
9876598765
44
enter basic pay
50000

enter designation of employee
Assistantprofessor
enter employee name,address,mail id,mobile number and employee id
Varuna
Villivakkam
varuna@yahoo.com
6778899600
55
enter basic pay
35000

Employee name:Hema
Employee id:33
Adress:Arumbakkam
Mail_id:hema@gmail.com
Moile number:9876543210
Gross salary:50800.0
Net salary:60960.0

Employee name:Yami
Employee id:44
Adress:Velacheri
Mail_id:yami@yahoo.com
Moile number:9876598765
Gross salary:63500.0
Net salary:59450.0

Employee name:Varuna
Employee id:55

```
Address:Villivakkam
Mail_id:varuna@yahoo.com
Moile number:6778899600
Gross salary:44450.0
Net salary:45215.0
*/
```

```
/*3.Write a java program with a class named 'Person' which consists of
name, age, DOB and address. Have functions to get input and
calculate_performance.*/
import java.util.Scanner;
class Person
{
    Scanner in=new Scanner(System.in);
    String name,address,dob,perf;
    int age;
    void input()
    {
        System.out.println("Enter name , address , date of birth and
age");
        name=in.nextLine();
        address=in.nextLine();
        dob=in.nextLine();
        age=in.nextInt();
    }
    void perform(int g)
    {
        if(g>12)
            perf="outstanding";
        else if(g>10)
            perf="excellent";
        else if(g>8)
            perf="good";
        else
            perf="fair";
    }
    void display()
    {
        System.out.println("Name:"+name);
        System.out.println("Address:"+address);
        System.out.println("D.O.B:"+dob);
        System.out.println("Age:"+age);
        System.out.println("Performance:"+perf);
    }
}
class Student extends Person
{
    Student()
    {
        input();
        String dept,perf;
        int marks,extra;
        String temp=in.nextLine();
        System.out.println("enter department");
        dept=in.nextLine();
        System.out.println("enter average mark");
        marks=in.nextInt();
        marks=marks/10;
        System.out.println("enter no of extracurricuar activities");
    }
}
```

```

        extra=in.nextInt();
        int g=marks+extra;
        perform(g);
    }

}
class Professor extends Person
{
    Professor()
    {
        input();
        String dept;
        int funded,publications;
        String temp=in.nextLine();
        System.out.println("enter department");
        dept=in.nextLine();
        System.out.println("enter no of funded projects and publications");
        funded=in.nextInt();
        publications=in.nextInt();
        int g=funded+publications;
        perform(g);
    }
}
class Main
{
    public static void main(String arg[])
    {
        Scanner in=new Scanner(System.in);
        int n,ch,i=0;
        System.out.println("enter no of person");
        n=in.nextInt();
        int te=n;
        Person []p=new Person[n];
        while(n!=0)
        {
            System.out.println("enter choice 1.Student
2.Professor");
            ch=in.nextInt();
            if(ch==1)
            {
                p[i]=new Student();
            }
            else
                p[i]=new Professor();
            n--;
            i++;
        }
        for(int j=0;j<te;j++)
            p[j].display();
    }
}

```

```

/*Sample input/output
enter no of person
2
enter choice 1.Student 2.Professor
1
Enter name , address , date of birth and age
Gayathri

```

Mogappair
11/05/2001
18
enter department
CSE
enter average mark
90
enter no of extracurricular activities
4
enter choice 1.Student 2.Professor
2
Enter name , address , date of birth and age
Taruna
Villivakkam
20/05/1979
40
enter department
ECE
enter no of funded projects and publications
5
7
Name:Gayathri
Address:Mogappair
D.O.B:11/05/2001
Age:18
Performance:outstanding
Name:Taruna
Address:Villivakkam
D.O.B:20/05/1979
Age:40
Performance:excellent
*/