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Ex-3:

1 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. Add Basic Pay (BP) as the member of all the inherited classes with 97% of BP as DA, 10 % of BP as HRA, 12% of BP as PF, 0.1% of BP for staff club fund. Generate pay slips for the employees with their gross and net salary.

Program:

```
class Employee
{
   String name,id,address,mail;
   int phone;
   Employee(String name, String id,String address,String mail,int phone)
   {
      this.name=name;this.address=address;this.mail=mail;this.phone=phone;
   }
}
class AssistantProfessor extends Employee
{
```

```
    int BP;
    AssistantProfessor(String name,String id,String address ,String mail,int phone,int BP )
    {
        super(name,id,address,mail,phone);
        this.BP=BP;
    }
    void paySlip()
    {
        float DA= BP*0.97f;
        float HRA =BP*0.1f;
        float PF=BP*0.12F;
        float club=BP*0.01f;
        float GP=BP+DA+HRA;
        float NP=GP-PF-club;
        System.out.println("gross salary of Assistantprofessor :"+GP);
        System.out.println("Net salary of Assistanceprofessor :"+NP);
    }
}



class AssociateProfessor extends Employee
{
    int BP;
    AssociateProfessor(String name,String id,String address ,String mail,int phone,int BP )
    {
        super(name,id,address,mail,phone);
```

```
        this.BP=BP;
    }
    void paySlip()
    {
        float DA= BP*0.97f;
        float HRA =BP*0.1f;
        float PF=BP*0.12F;
        float club=BP*0.01f;
        float GP=BP+DA+HRA;
        float NP=GP-PF-club;
        System.out.println("gross salary of Associateprofessor:"+GP);
        System.out.println("Net salary of Associateprofessor  :"+NP);

    }
}



class Professor extends Employee
{
    int BP;
    Professor(String name,String id,String address ,String mail,int phone,int BP )
    {
        super(name,id,address,mail,phone);
        this.BP=BP;
    }
    void paySlip()
```

```
    {
        float DA= BP*0.97f;
        float HRA =BP*0.1f;
        float PF=BP*0.12F;
        float club=BP*0.01f;
        float GP=BP+DA+HRA;
        float NP=GP-PF-club;
        System.out.println("gross salary of professor :"+GP);
        System.out.println("Net salary of professor :"+NP);

    }
}



public class MyClass {
    public static void main(String args[]) {
     AssistantProfessor Assip=new AssistantProfessor("venkatesh
","4093","Pedanandipadu","93@klu.ac.in",932745341,70000);
     AssociateProfessor Assop=new
AssociateProfessor("sham","4011","ongole","11@klu.ac.in ",973824312,65000);
     Professor p=new Professor("prakash
","4199","chirala","99@klu.ac.in",897698651,55000);
     Assip.paySlip();
     Assop.paySlip();
     p.paySlip();

    }
```

}

output::

gross salary of Assistantprofessor :144900.0

Net salary of Assistanceprofessor :135800.0

gross salary of Associateprofessor:134550.0

Net salary of Associateprofessor :126100.0

gross salary of professor :113850.0

Net salary of professor :106700.0

2 create a Circle class with following members.A data member that stores the radius of a circle

A constructor function with an argument that initializes the radiusA function that computes and returns are of a circle.

Create two derived classes Sector and Segment that inherit the Circle class.

Both classes inherit radius and the function that returns the circle's area from

Circle. In addition to the members inherited from Circle, Sector and Segment

Have some specific members as follows

A data member that stores the control angle of a sector(in radians)

A constructor function with arguments that initialize radius and angle

A function that computes and returns the area of a sector

Segment

A data member that stores the angle of a segment in a circle

A constructor function with arguments that initialize radius and angle

A function that computes and returns the area of a segment

Create the main () function to instantiate an object of each class and then call

Appropriate memb

Note :Area_of_circle =π r 2

Area_of_Sector=r 2 θ/2

Area_of_segment= ½ * r 2 (θ – sin θ)

Program :

```
class Circle
{
   float r;
   Circle(float rad)
   {
      r=rad;
   }
   float area()
   {
      return 3.14f*r*r;

   }
}

class Sector extends Circle
{
   int angle;
   Sector(float r,int angle)
   {
      super(r);
      this.angle=angle;
```

```
    }
    float area()
    {
        return 0.5f*r*r*angle;
    }
}

class Segment extends Circle
{
    int angle;
    Segment(float r,int angle)
    {
        super(r);
        this.angle=angle;

    }
    float area()
    {
        return 0.5f*r*r*(float)(angle-Math.sin((double)(angle)));
    }
}

public class Test{
    public static void main(String[] args)

    {
        Circle c=new Circle(4.5f);
```

```
        System.out.println("Area of circle :"+c.area());
        Sector sec=new Sector(4.5f,55);
        System.out.println("Area of sector :"+sec.area());
        Segment seg=new Segment(4.4f,75);
        System.out.println("Area of segment :"+seg.area());
    }
}
```

output::

```
Area of circle :63.585
Area of sector :556.875
Area of segment :729.7537
```