***1.calculate area and volume of circle using inheritance.***

import java.util.\*;

class Area{

double r,A;

Area(double r)

{

this.r=r;

}

void cal\_area()

{

A=3.14\*r\*r;

System.out.println(" area:" +A);

}

}

class volume extends Area{

double h,V;

volume(double r, double h)

{

super(r);

this.h=h;

}

void cal\_vol()

{

V=A\*h;

System.out.println("volume is:" +V);

}

}

public class Main

{

public static void main(String[] args) {

double r,h;

Scanner sc=new Scanner(System.in);

System.out.println("enter the value of r and h:");

r=sc.nextInt();

h=sc.nextInt();

volume v1=new volume(r,h);

v1.cal\_area();

v1.cal\_vol();

}

}

***Output:***

enter the value of r and h:

3

2

area:28.259999999999998

volume is:56.519999999999996

***2.student information using inheritance.***

import java.util.\*;

class student{

int rollno;

String name;

student( int rollno ,String name )

{

this.rollno=rollno;

this.name=name;

}

void show()

{

System.out.println("name: "+name);

System.out.println("roll: "+rollno);

}

}

class x\_student extends student

{

String cname;

double salary;

x\_student(int rollno,String name,String cname,double salary)

{

super( rollno ,name);

this.cname=cname;

this.salary=salary;

}

void display()

{

System.out.println("company name:"+cname);

System.out.println("salary:"+salary);

}

}

public class Main

{

public static void main(String[] args) {

int rollno;

String name ,cname;

Double salary;

Scanner sc=new Scanner(System.in);

System.out.println("enter the value of roll,name,cname,salary::");

rollno=sc.nextInt();

name=sc.next();

cname=sc.next();

salary=sc.nextDouble();

x\_student v1=new x\_student(rollno,name,cname,salary);

v1.show();

v1.display();

}

}

***Output:***

enter the value of roll,name,cname,salary::

1

irani

infosis

25000

name: irani

roll: 1

company name:infosis

salary:25000.0

***3.student using inheritance and array of object.***

import java.util.\*;

class student{

int rollno;

String name;

student( int rollno ,String name )

{

this.rollno=rollno;

this.name=name;

}

void show()

{

System.out.println("name: "+name);

System.out.println("roll: "+rollno);

}

}

class x\_student extends student

{

String cname;

double salary;

x\_student(int rollno,String name,String cname,double salary)

{

super( rollno ,name);

this.cname=cname;

this.salary=salary;

}

void display()

{

System.out.println("company name:"+cname);

System.out.println("salary:"+salary);

}

}

public class Main

{

public static void main(String[] args) {

int rollno;

String name ,cname;

Double salary;

Scanner sc=new Scanner(System.in);

int i,n;

System.out.println("enter the record");

n=sc.nextInt();

x\_student v1[]=new x\_student[n];

for(i=0;i<n;i++)

{

System.out.println("enter the value of roll,name,cname,salary::");

rollno=sc.nextInt();

name=sc.next();

cname=sc.next();

salary=sc.nextDouble();

v1[i]=new x\_student(rollno,name,cname,salary);

v1[i].show();

v1[i].display();

}

}

}

***Output:***

enter the record

2

enter the value of roll,name,cname,salary::

1

nita

abc

25000

name: nita

roll: 1

company name:abc

salary:25000.0

enter the value of roll,name,cname,salary::

2

nitya

amezon

30000

name: nitya

roll: 2

company name:amezon

salary:30000.0

***4. Define a class “Employee” which has members id, name, date of birth. Define***

another class “Manager” which has members department name and joining date and extends Employee. Create n objects of the manager class.

import java.util.\*;

class employee{

int id;

String name;

String DOB;

employee( int id,String name , String DOB)

{

this.id=id;

this.name=name;

this.DOB=DOB;

}

void show()

{

System.out.println("ID: "+id);

System.out.println("name: "+name);

System.out.println("DOB: "+DOB);

}

}

class manager extends employee

{

String depatment;

String date\_of\_joine;

manager(int id,String name,String DOB,String depatment,String date\_of\_joine)

{

super(id,name,DOB);

this.depatment=depatment;

this.date\_of\_joine=date\_of\_joine;

}

void display()

{

System.out.println("depatment:"+depatment);

System.out.println("date\_of\_joine:"+date\_of\_joine);

}

}

public class Main

{

public static void main(String[] args) {

int id;

String name ,depatment,date\_of\_joine,DOB;

Scanner sc=new Scanner(System.in);

System.out.println("enter the value of id,name,DOB,depatment,date\_of\_joine:");

id=sc.nextInt();

name=sc.next();

DOB=sc.next();

depatment=sc.next();

date\_of\_joine=sc.next();

manager v1=new manager(id,name,DOB,depatment,date\_of\_joine);

v1.show();

v1.display();

}

}

Output:

enter the value of id,name,DOB,depatment,date\_of\_joine:

101

isha

20-2-2002

bcs

23-9-2023

ID: 101

name: isha

DOB: 20-2-2002

depatment:bcs

date\_of\_joine:23-9-2023

***5.using array of object***

import java.util.\*;

class employee{

int id;

String name;

String DOB;

employee( int id,String name , String DOB)

{

this.id=id;

this.name=name;

this.DOB=DOB;

}

void show()

{

System.out.println("ID: "+id);

System.out.println("name: "+name);

System.out.println("DOB: "+DOB);

}

}

class manager extends employee

{

String depatment;

String date\_of\_joine;

manager(int id,String name,String DOB,String depatment,String date\_of\_joine)

{

super(id,name,DOB);

this.depatment=depatment;

this.date\_of\_joine=date\_of\_joine;

}

void display()

{

System.out.println("depatment:"+depatment);

System.out.println("date\_of\_joine:"+date\_of\_joine);

}

}

public class Main

{

public static void main(String[] args) {

int id;

String name ,depatment,date\_of\_joine,DOB;

Scanner sc=new Scanner(System.in);

int i,n;

System.out.println("enter the record");

n=sc.nextInt();

manager[] m1=new manager[n];

for(i=0;i<n;i++)

{

System.out.println("enter the value of id,name,DOB,depatment,date\_of\_joine:");

id=sc.nextInt();

name=sc.next();

DOB=sc.next();

depatment=sc.next();

date\_of\_joine=sc.next();

m1[i]=new manager(id,name,DOB,depatment,date\_of\_joine);

m1[i].show();

m1[i].display();

}

}

}

***Output:***

enter the record

2

enter the value of id,name,DOB,depatment,date\_of\_joine:

11

meera

20-7-2002

bcs

23-9-2023

ID: 11

name: meera

DOB: 20-7-2002

depatment:bcs

date\_of\_joine:23-9-2023

enter the value of id,name,DOB,depatment,date\_of\_joine:

12

mitali

21-9-2001

bca

21-9-2020

ID: 12

name: mitali

DOB: 21-9-2001

depatment:bca

date\_of\_joine:21-9-2020

***6. Define an Employee class with suitable attributes having getsalary() method, which returns salary withdrawn by a particular employee. Write a class Manager which extends a class Employee, the calsal() method, which will return salary of manager by adding traveling allowance, house rent allowance etc.***

***Employee(eid,ename,bs)***

***Manager(hra,ta,da,gs)***

import java.util.Scanner;

class Emp{

int eid;

double bs;

String ename;

Emp(int eid , String ename , double bs)

{

this.eid=eid;

this.ename=ename;

this.bs=bs;

}

double getsalary()

{

return bs;

}

void display()

{

System.out.println("Employee id is " + eid);

System.out.println("Employee name is " + ename);

System.out.println("Employee base salary is " + bs);

}

}

class Manager extends Emp

{

double ta,da,gs,hra;

Manager(int eid,String ename,double bs)

{

super(eid,ename,bs);

}

double cal\_sal()

{

hra=bs\*0.50;

ta=getsalary()\*0.40;

da=getsalary()\*0.30;

gs=getsalary()+hra+ta+da;

return gs;

}

void show()

{

System.out.println("Total gross salary is " + cal\_sal());

}

}

public class Main

{

public static void main(String[] args)

{

int eid;

String ename;

double ta,da,gs,hra,bs;

Scanner sc=new Scanner(System.in);

System.out.println("Enter the employee id,employee name,base salary");

eid=sc.nextInt();

ename=sc.next();

bs=sc.nextDouble();

Manager m=new Manager(eid,ename,bs);

m.cal\_sal();

m.show();

m.display();

}

}

Output:

Enter the employee id,employee name,base salary

1

Nitya

23000

Total gross salary is 50600.0

Employee id is 1

Employee name is nitya

Employee base salary is 23000.0

***7.array of object***

import java.util.Scanner;

class Emp{

int eid;

double bs;

String ename;

Emp(int eid , String ename , double bs)

{

this.eid=eid;

this.ename=ename;

this.bs=bs;

}

double getsalary()

{

return bs;

}

void display()

{

System.out.println("Employee id is " + eid);

System.out.println("Employee name is " + ename);

System.out.println("Employee base salary is " + bs);

}

}

class Manager extends Emp

{

double ta,da,gs,hra;

Manager(int eid,String ename,double bs)

{

super(eid,ename,bs);

}

double cal\_sal()

{

hra=bs\*0.50;

ta=getsalary()\*0.40;

da=getsalary()\*0.30;

gs=getsalary()+hra+ta+da;

return gs;

}

void show()

{

System.out.println("Total gross salary is " + cal\_sal());

}

}

public class Main

{

public static void main(String[] args)

{

int eid;

String ename;

double ta,da,gs,hra,bs;

int n,i;

Scanner sc=new Scanner(System.in);

System.out.println("enter the n:");

n=sc.nextInt();

Manager m[]=new Manager[n];

for( i=0;i<n;i++);

{

System.out.println("Enter the employee id,employee name,base salary");

eid=sc.nextInt();

ename=sc.next();

bs=sc.nextDouble();

m[i]=new Manager(eid,ename,bs);

m[i].cal\_sal();

m[i].show();

m[i].display();

}

}

}