Single Inheritance

1) Area of circle & Volume

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("Radius="+r+"\nArea="+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("H="+h+"\nVolume="+v);

}

}

public class Area\_Of\_Circle

{

public static void main(String[] args)

{

double r,h;

Scanner sc=new Scanner(System.***in***);

System.***out***.println("Enter r & h");

r=sc.nextDouble();

h=sc.nextDouble();

Volume v1= new Volume(r, h);

v1.cal\_area();

v1.cal\_vol();

}

}

Output:

Enter r & h

12 23

Radius=12.0

Area=452.15999999999997

H=23.0

Volume=10399.679999999998

2) Student

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("RollNo="+rollno);

System.***out***.println("Name="+name);

}

}

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 Student\_Info

{

public static void main(String[] args)

{

int rollno;

String name,cname;

double salary;

Scanner sc=new Scanner(System.***in***);

System.***out***.println("Enter rollno, name, company name,salary");

rollno=sc.nextInt();

name=sc.next();

cname=sc.next();

salary=sc.nextDouble();

X\_Student s=new X\_Student(rollno,name,cname,salary);

s.show();

s.display();

}

}

Output:

Enter rollno, name, company name,salary

102 Ashok Amazon 10000000

RollNo=102

Name=Ashok

Company Name=Amazon

Salary=1.0E7

3) 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.Scanner;

class Employee

{

int id;

String name,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 dept\_name,jdate;

Manager(int id, String name, String dob, String dept\_name, String jdate)

{

super(id,name,dob);

this.dept\_name=dept\_name;

this.jdate=jdate;

}

void display()

{

System.***out***.println("Department Name="+dept\_name);

System.***out***.println("Joining Date="+jdate);

}

}

public class Employee\_Info

{

public static void main(String[] args)

{

int size,i,id;

String name,dob,dept\_name,jdate;

Scanner sc=new Scanner(System.***in***);

System.***out***.println("Enter number of records");

size=sc.nextInt();

Manager[] m=new Manager[size];

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

{

System.***out***.println("Enter employee id,name,DOB,department name,Joining date");

id=sc.nextInt();

name=sc.next();

dob=sc.next();

dept\_name=sc.next();

jdate=sc.next();

m[i]=new Manager(id,name,dob,dept\_name,jdate);

m[i].show();

m[i].display();

}

}

}

Output:

Enter number of records

2

Enter employee id,name,DOB,department name,Joining date

101 Ash 17/03/1997 HOD 27/01/2025

Id=101

Name=Ash

DOB=17/03/1997

Department Name=HOD

Joining Date=27/01/2025

Enter employee id,name,DOB,department name,Joining date

102 Ashok 17/04/2000 CEO 27/01/2025

Id=102

Name=Ashok

DOB=17/04/2000

Department Name=CEO

Joining Date=27/01/2025

4) 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 the salary of the manager by adding traveling allowance, house rent allowance etc. Employee (eid, ename, bs) Manager (hra, ta, da, gs).

Output:

import java.util.Scanner;

class Employee\_Info2

{

int eid;

String ename;

double basic\_salary;

Employee\_Info2(int eid, String ename, double basic\_salary)

{

this.eid=eid;

this.ename=ename;

this.basic\_salary=basic\_salary;

}

double getSalary()

{

return basic\_salary;

}

void display()

{

System.***out***.println("ID="+eid);

System.***out***.println("Name="+ename);

System.***out***.println("Basic Salary="+basic\_salary);

}

}

class Manager\_Info extends Employee\_Info2

{

double hra, ta, da, gs;

Manager\_Info(int eid, String ename, double basic\_salary)

{

super(eid, ename, basic\_salary);

}

void cal\_sal()

{

hra=getSalary()\*0.50;

ta=getSalary()\*0.35;

da=getSalary()\*0.50;

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

System.***out***.println("Gross salary="+gs);

}

}

public class Emp\_Info2

{

public static void main(String[] args)

{

int eid;

String ename;

double basic\_salary;

Scanner sc=new Scanner(System.***in***);

System.***out***.println("Enter Employee id,name,Salary");

eid=sc.nextInt();

ename=sc.next();

basic\_salary=sc.nextDouble();

Manager\_Info m=new Manager\_Info(eid, ename, basic\_salary);

m.display();

m.cal\_sal();

}

}

Enter Employee id, name, Salary:

101 Ashok 70000

ID=101

Name=Ashok

Basic Salary=70000.0

Gross salary=164500.0