

**(Established under the Presidency University Act, 2013 of the Karnataka Act 41 of 2013)**

**Course Code : CSE1006 Course Title : Problem solving using java**

Import java.util.Scanner;

abstract class Geometry {

double d1,d2,area;

abstract void area();

}

class Rectangle extends Geometry {

Rectangle(double length, double breadth)

{

d1=length;

d2=breadth;

}

void area()

{

area=d1\*d2;

System.out.println("area of a rectangle is "+area);

}

}

class Traingle extends Geometry {

Traingle (double base, double height)

{

d1=base;

d2=height;

}

void area()

{

area=d1\*d2/2;

System.out.println("area of a traingle is "+area);

}

}

public class Main{

public static void main(String[] args) {

Rectangle r1=new Rectangle(3.1,4.1);

r1.area();

Traingle t1=new Traingle(2.1,6.1);

t1.area();

}

}

=======================

// demo of runtime polymorphism

class Organisation

{

void address() // this is called overridden method

{

System.out.println("Rajankunte,Bengaluru");

}

}

class Employee extends Organisation

{

void address() // this is called overridding method

{

System.out.println("Hebbal,Bengaluru");

}

}

class Main3

{

public static void main(String args[])

{

Organisation obj=new Organisation();

obj.address(); // parent method called

obj= new Employee(); // same base class object reference can be used to create child class object

obj.address(); // child method called

}

}

=====================

// demo of multiple inheritance using interfaces to perform addition and sub traction.

import java.io.\*;

// interface for addition

interface Add{

int add(int a,int b);

}

// interface for subtraction

interface Sub{

int sub(int a,int b);

}

// Calculator class implementing

// Add and Sub

class Calculator implements Add , Sub

{

// Method to add two numbers

public int add(int a,int b)

{

return a+b;

}

// Method to sub two numbers

public int sub(int a,int b)

{

return a-b;

}

}

class Main2{

// Main Method

public static void main (String[] args)

{

// instance of Cal class

Calculator c1 = new Calculator();

System.out.println("Addition : " + c1.add(11,22));

System.out.println("Substraction : " + c1.sub(20,5));

}

}

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Note: Faculty can suggest few more problems to cover the above topics as assignment.