**1. Create a class called lamp it contains a variable is on and two methods turn on() and turn off () with an associated object.**

**public class Lamp {**

**booleanisOn;**

**void turnOn()**

**{**

**isOn=true;**

**System.out.println("Light on?" +isOn);**

**}**

**void turnOff()**

**{**

**isOn=false;**

**System.out.println("Light off? " +isOn);**

**}**

**public static void main(String[] args) {**

**// TODO Auto-generated method stub**

**Lamp led=new Lamp();**

**led.turnOn();**

**led.turnOff();**

**}**

**}**

**Output**

Light on?true

Light off? false

**2. Write a java program for sorting a given list of names in ascending order.**

**Program:-**

**class Alphabetical\_order{**

**public static void main(String[] args)**

**{**

**// storing input in variable**

**int n = 4;**

**// create string array called names**

**String names[] = { "Rahul", "Ajay", "Gourav", "Riya" };**

**String temp;**

**for (int i = 0; i< n; i++) {**

**for (int j = i + 1; j < n; j++) {**

**// to compare one string with other strings**

**if (names[i].compareTo(names[j]) > 0) {**

**// swapping**

**temp = names[i];**

**names[i] = names[j];**

**names[j] = temp;**

**}**

**}**

**}**

**// print output array**

**System.out.println("The names in alphabetical order are: ");**

**for (int i = 0; i< n; i++) {**

**System.out.println(names[i]);**

**}**

**}**

**}**

**OR**

**import java.io.\*;**

**import java.util.\*;**

**class Alphabetical\_order {**

**public static void main(String[] args)**

**{**

**// storing input in variable**

**int n = 4;**

**// create string array called names**

**String names[] = { "Rahul", "Ajay", "Gourav", "Riya" };**

**// inbuilt sort function**

**Arrays.sort(names);**

**// print output array**

**System.out.println( "The names in alphabetical order are: ");**

**for (int i = 0; i< n; i++) {**

**System.out.println(names[i]);**

**}**

**}**

**}**

**Output**

The names in alphabetical order are:

Ajay

Gourav

Rahul

Riya

**3. Write a java program for Method overloading and Constructor overloading.**

import java.io.\*;

class MethodOverloadingEx

{

static int add(int a, int b)

{

return a + b;

}

static int add(int a, int b, int c)

{

return a + b + c;

}

public static void main(String args[])

{

System.out.println("add() with 2 parameters");

System.out.println(add(4, 6));

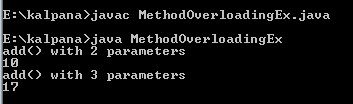
System.out.println("add() with 3 parameters");

System.out.println(add(4, 6, 7));

}

}

### Output:



**4.Create a class called Bank and calculate the rate of interest for different banks using method overriding and inheritance.**

class Bank

{

    int getRateOfInterest()

{

return 0;

}

}

class SBI extends Bank

{

    int getRateOfInterest()

{

return 5;

}

}

class ICICI extends Bank

{

    int getRateOfInterest()

{

return 6;

}

}

class AXIS extends Bank

{

    int getRateOfInterest()

{

return 7;

}

}

class DisplayResult

{

    public static void main(String args[])

{

    SBI s = new SBI();

    ICICI i = new ICICI();

    AXIS a = new AXIS();

    System.out.println("Rate of Interest in SBI is "+s.getRateOfInterest()+"%");

    System.out.println("Rate of Interest in ICICI is "+i.getRateOfInterest()+"%");

    System.out.println("Rate of Interest in AXIS is "+a.getRateOfInterest()+"%");

}

}

**Output:-**

Rate of Interest in SBI is 5%

Rate of Interest in ICICI is 6%

Rate of Interest in AXIS is 7%

**5.Write a java program to create an abstract class named Shape that contains two integers and an empty method named print Area (). Provide three classes named Rectangle, Triangle and Circle such that each one of the classes extends the class Shape. Each one of the classes contain only the method print Area() that prints the area of the given shape.**

abstract class shape

{

int x,y;

abstract void area(double x,double y);

}

class Rectangle extends shape

{

void area(double x,double y)

{

System.out.println("Area of rectangle is :"+(x\*y));

}

}

class Circle extends shape

{

void area(double x,double y)

{

System.out.println("Area of circle is :"+(3.14\*x\*x));

}

}

class Triangle extends shape

{

void area(double x,double y)

{

System.out.println("Area of triangle is :"+(0.5\*x\*y));

}

}

public class AbstactDDemo

{

public static void main(String[] args)

{

Rectangle r=new Rectangle();

r.area(2,5);

Circle c=new Circle();

c.area(5,5);

Triangle t=new Triangle();

t.area(2,5);

}

}

**Output:**

Area of rectangle is :10.0

Area of circle is :78.5

Area of triangle is :5.0