Method Overloading

1) Calculate Area of rectangle, circle, triangle

import java.util.\*;

class Poly

{

double l,b,A,r,h;

void cal\_area()

{

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

System.***out***.println("Enter l & b");

l=sc.nextDouble();

b=sc.nextDouble();

A=l\*b;

System.***out***.println("Area of rectangle="+A);

}

void cal\_area(double r)

{

this.r=r;

A=3.14\*r\*r;

System.***out***.println("Area of circle="+A);

}

double cal\_area(double b, double h)

{

this.b=b;

this.h=h;

A=0.5\*b\*h;

return A;

}

}

public class Main

{

public static void main(String[] args)

{

double r,b,h;

Poly p=new Poly();

p.cal\_area();

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

System.***out***.println("Enter radius of circle");

r=sc.nextDouble();

p.cal\_area(r);

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

b=sc.nextDouble();

h=sc.nextDouble();

System.***out***.println("Area of triangle="+p.cal\_area(b,h));

}

}

Output:

Enter l & b

12 21

Area of rectangle=252.0

Enter radius of circle

12

Area of circle=452.15999999999997

Enter b & h

23 12

Area of triangle=138.0

2)max 2 number & max 3 number using method overloading int max (int a, int b) void max ()

import java.util.\*;

class MaxNumber{

int a, b;

int max(int a, int b)

{

this.a=a;

this.b=b;

if(a>b)

{

return a;

}

else

{

return b;

}

}

void max()

{

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

System.***out***.println("Enter value of a & b");

a = sc.nextInt();

b = sc.nextInt();

if(a>b)

{

System.***out***.println(a+" is max");

}

else if (b>a)

{

System.***out***.println(b+" is max");

}

else

{

System.***out***.println("Both are equal & max");

}

}

}

Output:

Enter value of a & b

23 34

34 is Max

Enter value of a & b

34 24

34 is max

3) Add 2 number & Add3 number using method overloading

import java.util.\*;

class Addition

{

int a,b;

void add()

{

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

System.***out***.println("Enter value of a & b");

a = sc.nextInt();

b = sc.nextInt();

System.***out***.println("Addition="+(a+b));

}

void add(int a,int b)

{

this.a=a;

this.b=b;

System.***out***.println("Addition="+(a+b));

}

}

public class Main3

{

public static void main(String[] args)

{

int a,b;

Addition addition = new Addition();

addition.add();

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

System.***out***.println("Enter value of a & b");

a = sc.nextInt();

b = sc.nextInt();

addition.add(a,b);

}

}

Output:

Enter value of a & b

12 23

Addition=35

Enter value of a & b

34 34

Addition=68

Method Overriding

1) Animal

import java.util.\*;

class Animal

{

void eat()

{

System.***out***.println("Eating....");

}

}

class Dog extends Animal

{

void eat()

{

System.***out***.println("Dog Eating Bread");

}

}

class Cow extends Animal

{

void eat()

{

System.***out***.println("Cow Eating Grass");

}

}

public class Main

{

public static void main(String[] args)

{

Animal a = new Animal();

a.eat();

Animal d = new Dog();

d.eat();

Cow c = new Cow();

c.eat();

}

}

Output:

Eating....

Dog Eating Bread

Cow Eating Grass

2) Shape

class Shape

{

public void draw()

{

System.***out***.println("drawing...");

}

}

class Rectangle extends Shape

{

public void draw()

{

//Logic(l,b);

System.***out***.println("drawing rectangle...");

}

}

class Circle extends Shape

{

public void draw()

{

//logic(r);

System.***out***.println("drawing circle...");

}

}

public class Main2

{

public static void main(String[] args)

{

Shape s;

s = new Shape();

s.draw();

s = new Rectangle();

s.draw();

s = new Circle();

s.draw();

}

}

Output:

drawing...

drawing rectangle...

drawing circle...

3) Area & volume

import java.util.Scanner;

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\_area()

{

super.cal\_area();

v=A\*h;

System.***out***.println("H="+h+"\nVolume="+v);

}

}

public class Main3

{

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 v = new Volume(r, h);

v.cal\_area();

}

}

Output:

Enter r & h

12 21

Radius=12.0

Area=452.15999999999997

H=21.0

Volume=9495.359999999999

4) Date, Employee, Manager, Sales Manager

class Date

{

int dd; int mm; int yy;

public Date()

{

dd=mm=yy=0;

}

public Date(int d,int m,int y)

{

dd=d;

mm=m;

yy=y;

}

public String toString()

{

return dd+"/"+mm+"/"+yy;

}

}

class Employee

{

int empID;

String ename;

Date bdate;

int wdays;// working days in month

double rate; //rate per day

public Employee()

{

}

public Employee(int eid,String n, Date d, int wd,double r)

{

empID=eid; ename=n; bdate=d; wdays=wd; rate=r;

}

}

class Manager extends Employee

{

double salary;

Manager()

{

super(); salary=0;

}

Manager(int eid, String s,Date d,int wd, double rate)

{

super(eid,s,d,wd,rate);

}

public double computesal()

{

return (wdays\*rate);

}

public String toString()

{

return empID+"\n"+ename+"\n"+bdate+"\n"+wdays+"\n"+rate+"\n"+this.computesal();

}

}

class SalesManager extends Manager

{

double sales; double comm;

SalesManager()

{

super();

sales=0;

comm=0;

}

SalesManager (int eid, String n, Date d, int wd, double r, double s, double c)

{

super(eid,n,d,wd,r);

sales=s;comm=c;

}

public double computesal()

{

if(sales>1000)

return(super.computesal()+sales\*comm);

else

return(super.computesal());

}

public String toString()

{

return empID+"\n"+ename+"\n"+bdate+"\n"+wdays+"\n"+rate+"\n"+this.computesal();

}

}

public class Main4

{

public static void main(String[]args)

{

Date d1 = new Date(14,7,1979);

Employee e1 = new Employee(10,"A",d1,23,100.50);

Manager m1 = new Manager(10,"B",d1,23,200.50);

System.***out***.println(m1);

Date d2 = new Date(12,4,2000);

SalesManager sm1 = new SalesManager(20,"C",d2,27,150,1500,10.5);

System.***out***.println(sm1);

}

}

Output:

10

B

14/7/1979

23

200.5

4611.5

20

C

12/4/2000

27

150.0

19800.0