

UNIVERSITY PARTNER



Introductory programming and problem solving (4CS001)

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WAP to display volume of Sphere.

```
import java.util.Scanner;
class VolumeOfSphere
{
    public static void main(String args[])
    {
        Scanner s= new Scanner(System.in);
        System.out.println("Enter the radius of sphere:");
        double r=s.nextDouble();

        double volume= (4*22*r*r*r)/(3*7);
        System.out.println("Volume is:" +volume);
    }
}
```

Output:

Enter the radius of sphere:

7

Volume is:1437.3333333333333

WAP to find area of rectangle

```
import java.util.Scanner;
public class area{
    public static void main (String[] args)
    {
        Scanner sc = new Scanner(System.in);

        System.out.println("Enter the length: ");
        double l = sc.nextDouble();

        System.out.println("Enter the breadth: ");
        double b = sc.nextDouble();

        double area = l * b;
        System.out.println("Area of Rectangle is:"+area);
    }
}
```

Output:

Enter the length:

5

Enter the breadth:

4

Area of Rectangle is:20.0

WAP to find potential energy of a body.

```
import java.util.Scanner;
public class PE{
    public static void main (String[] args){
        double g = 9.8;

        Scanner pe = new Scanner(System.in);

        System.out.println("enter mass: ");
        double m = pe.nextDouble();

        System.out.println("enter height: ");
        double h = pe.nextDouble();

        double PE = m*g*h;
        System.out.println("potential energy of a body is: "+PE);
    }
}
```

Output:

enter mass:

10

enter height:

15

potential energy of a body is: 1470.0

WAP to find total surface area of a cuboid

```
import java.util.Scanner;
class tsa{
    public static void main (String[] args){
        Scanner sc = new Scanner(System.in);

        System.out.println("enter length: ");
        double l = sc.nextDouble();

        System.out.println("enter width: ");
        double w = sc.nextDouble();

        System.out.println("enter height: ");
        double h = sc.nextDouble();

        double tsa = 2*(l*w + w*h + l*h);
        System.out.println("the total surface area of cuboid is: "+tsa);
    }
}
```

Output:

enter length:

10

enter width:

12

enter height:

15

the total surface area of cuboid is: 900.0

WAP to find total surface area of a cube

```
import java.util.Scanner;
public class tsa2{
    public static void main(String[] args){
        Scanner tsa = new Scanner(System.in);

        System.out.println("enter length of a side: ");
        double l = tsa.nextDouble();

        double tsaC = 6*(l*l);
        System.out.println("TSA of a cube is: "+tsaC);
    }
}
```

Output:

enter length of a side:

15

TSA of a cube is: 1350.0

Write a program to ask quantity of pen, copy and pencil and their rate and find out the total amount.

```
import java.util.Scanner;
public class practice{
    public static void main(String[] args){
        Scanner shop = new Scanner(System.in);

        System.out.println("how many pen do you need?");
        double p = shop.nextDouble();

        System.out.println("price of pen is: ");
        double pp = shop.nextDouble();

        System.out.println("how many copy do you need?");
        double c = shop.nextDouble();

        System.out.println("price of copy is: ");
        double cp = shop.nextDouble();

        System.out.println("how many pencil do you need?");
        double pe = shop.nextDouble();

        System.out.println("price of pencil is: ");
        double pep = shop.nextDouble();

        double totalamt = (p*pp)+(c*cp)+(pe*pep);
        System.out.println("total amount is: "+totalamt);
    }
}
```

Output:

how many pen do you need?

5

price of pen is:

10

how many copy do you need?

5

price of copy is:

10

how many pencil do you need?

5

price of pencil is:

10

total amount is: 150.0

Write a program to input selling price and cost price calculate profit or loss percentage

```
import java.util.Scanner;
public class practice{
    public static void main(String[] args){
        Scanner sell = new Scanner(System.in);

        System.out.println("enter selling price: ");
        double sp = sell.nextDouble();

        System.out.println("enter cost price: ");
        double cp = sell.nextDouble();

        if (sp > cp){
            double amt = sp - cp;
            System.out.println("profit is: "+amt);
        }
        else if(sp < cp){
            double amt = cp - sp;
            System.out.println("loss is: "+amt);
        }
        else{
            System.out.println("nor profit, nor loss");
        }
    }
}
```

Output:

enter selling price:

10000

enter cost price:

9000

profit is: 1000.0

enter selling price:

5000

enter cost price:

6000

loss is: 1000.0

enter selling price:

10000

enter cost price:

10000

nor profit, nor loss

WAP a program to input number as paise and convert into rupees.

```
import java.util.Scanner;
public class ruppe{
    public static void main(String[] args){
        Scanner rup = new Scanner(System.in);

        System.out.println("enter currrency into paisa: ");
        double p = rup.nextDouble();

        double rupee = p/100;
        System.out.println("currency into rupees is: "+rupee);
    }
}
```

Output:

```
enter currrency into paisa:
10000
currency into rupees is: 100.0
```

WAP to display cost of painting four walls of room.

```
import java.util.Scanner;
public class practice{
    public static void main(String[] args){
        Scanner awalls = new Scanner(System.in);

        System.out.println("enter length: ");
        double l = awalls.nextDouble();

        System.out.println("enter breadth: ");
        double b = awalls.nextDouble();

        System.out.println("enter height: ");
        double h = awalls.nextDouble();

        System.out.println("enter rate per sq: ");
        double r = awalls.nextDouble();

        double areaof4walls = 2*(l+b)*h;
        double cost = areaof4walls * r;
        System.out.println("cost of painting 4 walls is: "+cost);
    }
}
```

Output:

```
enter length:
10
enter breadth:
10
enter height:
5
enter rate per sq:
5
cost of painting 4 walls is: 1000.0
```

WAP to display Circumference of circle.

```
import java.util.Scanner;
public class Circum{
    public static void main (String[] args){
        double pi = 3.14;

        Scanner cir = new Scanner(System.in);

        System.out.println("enter radius: ");
        double r = cir.nextDouble();

        double cirum = 2*pi*r;
        System.out.println("Circumference of a circle is: "+cirum);
    }
}
```

Output:

enter radius:

7

Circumference of a circle is: 43.96

WAP to display total surface area of sphere

```
import java.util.Scanner;
public class practice{
    public static void main(String[] args){
        double pi = 3.14;

        Scanner prac = new Scanner(System.in);

        System.out.println("enter radius: ");
        double r = prac.nextDouble();

        double tsa=4*3.14*r*2;
        System.out.println("tsa of sphere is: "+tsa);
    }
}
```

Output:

enter radius:

7

tsa of sphere is: 175.84

WAP to ask distance in kilometer and convert into miles.

```
import java.util.Scanner;
public class conv{
    public static void main (String[] args){

        Scanner con = new Scanner(System.in);
        System.out.println("enter a distance in km: ");

        double Cc = con.nextDouble();
        double val = Cc * 0.621371;

        System.out.println("km to miles is: "+val);
    }
}
```

Output:

enter a distance in km:

1000

km to miles is: 621.371

WAP to input distance in meter and convert into kilometer.

```
import java.util.Scanner;
public class conv2{
    public static void main(String[] args){

        Scanner met = new Scanner(System.in);

        System.out.println("entr distacne in meter: ");
        double m = met.nextDouble();

        double km = m * 0.001;
        System.out.println("distance in kilometer is: "+km);
    }
}
```

Output:

entr distacne in meter:

10000

distance in kilometer is: 10.0

WAP to display area and perimeter of a rectangle.

```
import java.util.Scanner;
public class practice{
    public static void main(String[] args){
        Scanner ap = new Scanner(System.in);

        System.out.println("enter length: ");
        double l = ap.nextDouble();

        System.out.println("enter breadth: ");
        double b = ap.nextDouble();

        double peri = 2*(l+b);
        double area = l*b;

        System.out.println("perimeter is: "+peri);
        System.out.println("area is: "+area);
    }
}
```


Output:

```
enter length:
10
enter breadth:
10
perimeter is: 40.0
area is: 100.0
```

WAP to display area of square

```
import java.util.Scanner;
public class practice{
    public static void main(String[] args){
        Scanner a = new Scanner(System.in);

        System.out.println("enter length: ");
        double l = a.nextDouble();

        double area = l*l;
        System.out.println("area of aquare is: "+area);
    }
}
```

Output:

```
enter length:
4
area of aquare is: 16.0
```

WAP to calculate distance.

```
import java.util.Scanner;
public class practice{
    public static void main(String[] args){
        Scanner dis = new Scanner(System.in);

        System.out.println("enter time: ");
        double t = dis.nextDouble();

        System.out.println("enter accleration: ");
        double a = dis.nextDouble();

        System.out.println("enter initial velocity: ");
        double u = dis.nextDouble();

        double S = (u * t) + (0.5 * a * t * t);
        System.out.println("Distance is: "+S);
    }
}
```

Output:

```
enter time: |
4
enter acceleration:
4.9
enter initial velocity:
10
Distance is: 79.2
```

WAP to display total surface area of hemisphere

```
import java.util.Scanner;
public class practice{
    public static void main(String[] args){
        double pi = 3.14;
        Scanner hem = new Scanner(System.in);

        System.out.println("enter radius: ");
        double r = hem.nextDouble();

        double tsaothem = 3*pi*r*r;
        System.out.println("tsa of hemisphere is: "+tsaothem);
    }
}
```

Output:

```
enter radius:
7
tsa of hemisphere is: 461.58
```

WAP to input principal, rate and time and display Simple interest and total amount.

```
import java.util.Scanner;
public class Simple{
    public static void main(String[] args){

        Scanner SI = new Scanner(System.in);

        System.out.println("enter principal: ");
        double p = SI.nextDouble();

        System.out.println("enter time: ");
        double t = SI.nextDouble();

        System.out.println("enter rate: ");
        double r = SI.nextDouble();

        double SimpleI = (p*t*r)/100;
        double totalamt = p + SimpleI;
        System.out.println("Simple Interest is: "+SimpleI);
        System.out.println("total amount is: "+totalamt);
    }
}
```

Output:

enter principal:

10

enter time:

10

enter rate:

10

Simple Interest is: 10.0

total amount is: 20.0

WAP to ask n number and print the sum of first n natural number.

```
import java.util.Scanner;
public class practice{
    public static void main(String[] args){
        int sum = 0;
        Scanner num = new Scanner(System.in);

        System.out.println("enter a number: ");
        double n = num.nextDouble();

        for( int i =0;i<=n;i++){
            sum=sum + i;
        }
        System.out.println("sum is: "+sum);
    }
}
```

Output:

enter a number:

7

sum is: 28

WAP to ask n number and print the sum square of first n natural number.

```
import java.util.Scanner;
public class practice{
    public static void main(String[] args){
        int sum = 0;
        Scanner num = new Scanner(System.in);

        System.out.println("enter a number: ");
        double n = num.nextDouble();

        for( int i =0;i<=n;i++){
            sum=sum + (i*i);
        }
        System.out.println("sum is: "+sum);
    }
}
```

Output:

enter a number:

4

sum is: 30

WAP to display total surface area of cylinder.

```
import java.util.Scanner;
public class practice{
    public static void main(String[] args){
        double pi = 3.14;

        Scanner tsa = new Scanner(System.in);

        System.out.println("enter radius: ");
        double r = tsa.nextDouble();

        System.out.println("enter height: ");
        double h = tsa.nextDouble();

        double tsac = 2*pi*r*(h+r);
        System.out.println("tsa of cylinder is: "+tsac);
    }
}
```

Output:

enter radius:

7

tsa of cylinder is: 615.44

enter radius:

7

enter height:

7

tsa of cylinder is: 615.44

WAP to display volume of cuboid

```
import java.util.Scanner;
public class practice{
    public static void main(String[] args){
        Scanner vol = new Scanner(System.in);

        System.out.println("enter length: ");
        double l = vol.nextDouble();

        System.out.println("enter breadth: ");
        double b = vol.nextDouble();

        System.out.println("enter height: ");
        double h = vol.nextDouble();

        double volume = l * b * h;
        System.out.println("volume of cuboid is: "+volume);
    }
}
```

Output:

```
enter length:
4
enter breadth:
5
enter height:
6
volume of cuboid is: 120.0
```

WAP to display area of triangle

```
import java.util.Scanner;
public class practice{
    public static void main(String[] args){
        Scanner tri = new Scanner(System.in);

        System.out.println("enter breadth: ");
        double b = tri.nextDouble();

        System.out.println("enter height: ");
        double h = tri.nextDouble();

        double area = (b*h)/2;
        System.out.println("area of triangle is: "+area);
    }
}
```

Output:

```
enter breadth:
10
enter height:
10
area of triangle is: 50.0
```

WAP to display volume of cube

```
import java.util.Scanner;
public class practice{
    public static void main(String[] args){

        Scanner cub = new Scanner(System.in);

        System.out.println("enter edge: ");
        double a = cub.nextDouble();

        double vol = Math.pow(a,3);
        System.out.println("volume of cube is: "+vol);
    }
}
```

Output:

enter edge:

3

volume of cube is: 27.0

WAP to display perimeter of a square

```
import java.util.Scanner;
public class practice{
    public static void main(String[] args){
        Scanner sq = new Scanner(System.in);

        System.out.println("enter a side: ");
        double a = sq.nextDouble();

        double psq = 4*a;
        System.out.println("perimeter of a square is: "+psq);
    }
}
```

Output:

enter a side:

4

perimeter of a square is: 16.0

WAP to display area of Parallelogram.

```
import java.util.Scanner;
public class practice{
    public static void main(String[] args){
        Scanner ar = new Scanner(System.in);

        System.out.println("enter base: ");
        double b = ar.nextDouble();

        System.out.println("enter height: ");
        double h = ar.nextDouble();

        double area = b * h;
        System.out.println("area of parallelogram is: "+area);
    }
}
```

Output:

enter base:

4

enter height:

4

area of parallelogram is: 16.0

WAP to display volume of cuboid

```
import java.util.Scanner;
public class practice{
    public static void main(String[] args){
        Scanner vol = new Scanner(System.in);

        System.out.println("enter length: ");
        double l = vol.nextDouble();

        System.out.println("enter breadth: ");
        double b = vol.nextDouble();

        System.out.println("enter height: ");
        double h = vol.nextDouble();

        double volume = l * b * h;
        System.out.println("volume of cuboid is: "+volume);
    }
}
```

Output:

```
enter length:
4
enter breadth:
5
enter height:
6
volume of cuboid is: 120.0
```

WAP to ask input in kilogram and convert into grams

```
import java.util.Scanner;
public class conv3{
    public static void main (String[] args){

        Scanner kg = new Scanner(System.in);

        System.out.println("enter weight in kg: ");
        double k = kg.nextDouble();

        double kgg = k * 1000;
        System.out.println("Converted weight is: "+kgg);
    }
}
```

Output:

enter weight in kg:

100

Converted weight is: 100000.0

WAP to display area and perimeter of square

```
import java.util.Scanner;
public class practice{
    public static void main(String[] args){
        Scanner ap = new Scanner(System.in);

        System.out.println("enter a side: ");
        double a = ap.nextDouble();

        double peri = 4 * a;
        double area = a * a;

        System.out.println("perimeter is "+peri);
        System.out.println("area is "+area);
    }
}
```

Output:

enter a side:

5

perimeter is 20.0

area is 25.0

WAP to ask value in meter and convert into inch

```
import java.util.Scanner;
public class practice{
    public static void main(String[] args){
        Scanner conv = new Scanner(System.in);

        System.out.println("enter value in meter: ");
        double m = conv.nextDouble();

        double converted = m * 39.3701;
        System.out.println("value in inch is: "+converted);
    }
}
```

Output:

enter value in meter:

29

value in inch is: 1141.7329

WAP to display the area of 4 walls

```
import java.util.Scanner;
public class practice{
    public static void main(String[] args){
        Scanner awalls = new Scanner(System.in);

        System.out.println("enter length: ");
        double l = awalls.nextDouble();

        System.out.println("enter breadth: ");
        double b = awalls.nextDouble();

        System.out.println("enter height: ");
        double h = awalls.nextDouble();

        double areaof4walls = 2*(l+b)*h;
        System.out.println("area 4 walls is: "+areaof4walls);
    }
}
```

Output:

enter length:

15

enter breadth:

12

enter height:

16

area 4 walls is: 864.0

WAP to display area and circumference of a circle

```
import java.util.Scanner;
public class Circum{
    public static void main (String[] args){
        double pi = 3.14;

        Scanner cir = new Scanner(System.in);

        System.out.println("enter radius: ");
        double r = cir.nextDouble();

        double cirum = 2*pi*r;
        double area = pi*(r*r);
        System.out.println("Circumference of a circle is: "+cirum);
        System.out.println("area of a circle is: "+area);
    }
}
```

Output:

enter radius:

7

Circumference of a circle is: 43.96

area of a circle is: 153.86

WAP to display volume of hemisphere

```
import java.util.Scanner;
public class Circum{
    public static void main (String[] args){
        double pi = 3.14;

        Scanner hemi = new Scanner(System.in);

        System.out.println("enter radius: ");
        double r = hemi.nextDouble();

        double hemisphere = (2/3)*pi*(r*r*r);
        System.out.println("volume is :"+hemisphere);
    }
}
```

WAP to display area of sphere and total surface area of sphere.

```
import java.util.Scanner;
class VolumeOfSphere
{
    public static void main(String args[])
    {
        double pi = 3.14;
        Scanner s= new Scanner(System.in);

        System.out.println("Enter the radius of sphere:");
        double r=s.nextDouble();

        double volume= (4*22*r*r*r)/(3*7);
        double tsa = 4*pi*(r*r);
        System.out.println("Volume is:" +volume);
        System.out.println("tsa is:" +tsa);
    }
}
```

Output:

Enter the radius of sphere:

9

Volume is:3054.8571428571427

tsa is:1017.36

WAP to display the area of triangle when 3 sides are given

```
import java.util.Scanner;
public class practice{
    public static void main(String[] args){
        Scanner tri = new Scanner(System.in);

        System.out.println("\n Enter the Three sides of triangle: ");
        double s1 = tri.nextDouble();
        double s2 = tri.nextDouble();
        double s3 = tri.nextDouble();

        double S = (s1+s2+s3)/2;
        double area = Math.sqrt(S*(S-s1)*(S-s2)*(S-s3));

        System.out.println("area of triangle is: "+area);
    }
}
```

Output:

Enter the Three sides of triangle:

15

16

10

area of triangle is: 72.98929716061116