

3. Write a program to display the following pattern on the screen:

```
C
CO
COM
COMP
COMPU
COMPUT
COMPUTE
COMPUTER
class computer
{
public static void main()
{
System.out.println("C");
System.out.println("CO");
System.out.println("COM");
System.out.println("COMP");
System.out.println("COMPU");
System.out.println("COMPUT");
System.out.println("COMPUTE");
System.out.println("COMPUTER");
}
}
```

4. Write a program to display the following using Escape Sequence “\t”, “\n” on the screen.

```
Hello Friend.
How Are You?
I Am Fine.
And What
About You?
I Am Also Fine.
Thank You
Friend.
```

```
class friend
{
public static void main()
{
System.out.println("Hello\tFriend.");
System.out.println("How\tAre\tYou?");
System.out.println("I\tAm\tFine.");
System.out.println("And\tWhat\nAbout\tYou?");
System.out.println("I\tAm\tAlso\tFine.");
System.out.println("Thank\tYou\nFriend.");
}
}
```

OR

```
class friend
public static void main()
{
System.out.print("Hello\tFriend.\nHow\tAre\tYou?\nI\tAm\tFine.\nAnd\tWhat\nAbout\tYou?\nI\tAm\tAlso\tFine.\nThank\tYou\nFriend.");
}
}
```

5. Write a Program to display your Bio-Data consisting of your Name, Father's Name, Address, Place, State, Contact Number and Email ID.

```
class biodata
{
public static void main()
{
    System.out.println("BIO-DATA");
    System.out.println("Name : Rahul Banerjee");
    System.out.println("Father's Name : Rana Banerjee");
    System.out.println("Address : 132, G. T. Road");
    System.out.println("Place : Durgapur");
    System.out.println("State : West Bengal");
    System.out.println("Contact Number : 9832198321");
    System.out.println("Email ID : happy_rahul@rediffmail.com");
}
}
```

Note : Type Your Details in place of sample data

6. Write a program in java to assign two number 1273 and 58 in a suitable variable. Find its sum, difference, product, quotient and remainder. Display all values with proper message.

```
class calculation
{
public static void main()
{
    int a=1273;
    int b=58;
    int sum=a+b;
    int diff=a-b;
    int prod=a*b;
    int quo=a/b;
    int rem=a%b;
    System.out.println("First Number = "+a);
    System.out.println("Second Number = "+b);
    System.out.println("Sum of the Numbers = "+sum);
    System.out.println("Difference of the Numbers = "+diff);
    System.out.println("Product of the Numbers = "+prod);
    System.out.println("Quotient of the Numbers = "+quo);
    System.out.println("Reminder of the Numbers = "+rem);
}
}
```

7. Write a program in java to assign 1293 in a variable. Find and display

- i) Double the Number**
- ii) Half the Number**
- iii) 3/4 of the number**

```

class compute
{
    public static void main()
    {
        int a=1293;
        int d=a*2;
        double h=(1/2.0)*a;
        double f=(3/4.0)*a;
        System.out.println("Number = "+a);
        System.out.println("Double the Number = "+d);
        System.out.println("Half the number = "+h);
        System.out.println("3/4 of the number = "+f);
    }
}

```

8. A shopkeeper buys a TV set for Rs. 32,500 and sells it at a profit of 27%. Apart from this a VAT of 12.7% and Service Charge is 3.87% is charged. Display total selling price, profit along with vat and service charge.

```

class television
{
    public static void main()
    {
        int cp=32500;
        float p=(27/100.0f)*cp;
        float sp=cp+p;
        float vat=(12.7/100.0f)*cp;
        float sc=(3.87/100.0f)*cp;
        float tsp=sp+vat+sc;
        System.out.println("Cost Price = "+cp);
        System.out.println("Profit = "+p);
        System.out.println("Selling Price = "+sp);
        System.out.println("Vat @ 12.7 % = "+vat);
        System.out.println("Service Charge @ 3.87 % = "+sc);
        System.out.println("Total Selling Price = "+tsp);
    }
}

```

9. Rohan purchased an old cycle for Rs. 1200 and spend Rs. 250 on repairs, Rs. 350 in coloring and added new accessories worth Rs. 500. Rohan wants to make a profit of Rs. 1500 on selling the cycle. Find the selling price of the cycle. Write a java program to store all values and calculate and display the selling price and profit percent of the cycle.

```

class cycle
{
    public static void main()
    {
        int cp=1200, r=250,c=350,a=500,p=1500;
        int tcp=cp+r+c+a;
        int sp=tc+cp;
        double pp = (p*100.0)/tcp;
        System.out.println("Total Cost Price = "+tcp);
        System.out.println("Selling Price = "+sp);
        System.out.println("Profit % = "+pp);
    }
}

```

10. A train covers 120.5 km in 2.3 hours, next 160.75 km in 3.5 hours and the last 140.9 km in 5.5 hours. Write a java program to store all values and calculate and display average speed.

```

class distance
{
    public static void main()
    {
        float d1=120.5f, d2=160.75f, d3=140.9f;
        float t1=2.3f, t2=3.5f, t3=5.5f;
        float td=d1+d2+d3;
        float tt=t1+t2+t3;
        float as = td/tt;
        System.out.println("Average Speed = "+as);
    }
}

```

11. An alloy consists of 13 parts of copper and 7 parts of zinc and 5 parts of nickel. What is the percentage of each alloy in the metal? Write a java program to store all values and calculate and display the percentage of each metal.

```

class alloy
{
    public static void main(String args[])
    {
        int c=13,z=7,n=5;
        int sum =c+z+n;
        float pc= (c*100.0f)/sum;
        float pz= (z*100.0f)/sum;
        float pn= (n*100.0f)/sum;
        System.out.println("Percentage of Copper in Alloy = "+pc);
        System.out.println("Percentage of Zinc in Alloy = "+pz);
        System.out.println("Percentage of Nickel in Alloy = "+pn);
    }
}

```

```
}  
}
```

12. A salesperson sells goods worth Rs. 4325.00, Rs. 4996.50, Rs. 8935.00 and Rs. 9960.75 in four months. Write a program to store the above values and calculate and display total and average sales.

```
class average  
{  
    public static void main(String args[])  
    {  
        double s1=4325.0, s2=4996.5, s3=8935.5,s4=9960.75;  
        double tot = s1+s2+s3+s4;  
        double avg = tot/4.0d;  
        System.out.println("Total Sales = "+tot);  
        System.out.println("Average Sales = "+avg);  
    }  
}
```

13.. The average height of 6 boys is 158 cm. When the seventh boy joins the group the average height changes to 159 cm. Find the height of the seventh boy in the group. Write a program to store the above data and find and display the height of the seventh boy.

```
class height  
{  
    public static void main(String args[])  
    {  
        int avg6=158, avg7=159;  
        int tot6=avg6*6;  
        int tot7=avg7*7;  
        int h7=tot7-tot6;  
        System.out.println("Height of Seventh Boy = "+h7+" cm");  
    }  
}
```

14. The angles of a quadrilateral are in the ratio 14 : 6 : 8 : 10. Write a program to store the given ratio. Find and display each angle of the quadrilateral.

```
class quad  
{  
    public static void main(String args[])  
    {  
        int a=14,b=6,c=8,d=10;  
        int tot=a+b+c+d;  
        double s1 =(a*360.0)/tot;  
        double s2 =(b*360.0)/tot;  
        double s3 =(c*360.0)/tot;
```

```

        double s4 =(d*360.0)/tot;
        System.out.println("First Angle = "+s1);
        System.out.println("Second Angle = "+s2);
        System.out.println("Third Angle = "+s3);
        System.out.println("Fourth Angle = "+s4);
    }
}

```

15. Write a program in java to input two numbers. Find and display its sum, difference, product, quotient and remainder.

```

import java .io.*;
class cal
{
    public static void main(String[] args)
    {
        DataInputStream in= new DataInputStream(System.in);
        int a,b,sum,diff,prod,quo,rem;
        sum=diff=prod=quo=rem=0;

        try
        {
            System.out.print("Enter First Number : ");
            a=Integer.parseInt(in.readLine());
            System.out.print("Enter Second Number : ");
            b=Integer.parseInt(in.readLine());
            sum=a+b;
            diff=a-b;
            prod=a*b;
            quo=a/b;
            rem=a%b;

            System.out.println("Sum of the Numbers = "+sum);
            System.out.println("Difference of the Numbers = "+diff);
            System.out.println("Product of the Numbers = "+prod);
            System.out.println("Quotient of the Numbers = "+quo);
            System.out.println("Reminder of the Numbers = "+rem);
        }
        catch(Exception e)
        {};
    }
}

```

16. Write a program that will compute and display total bill where a loaf of bread cost Rs. 23.5 and an egg cost Rs. 5.75, where the user enters the loaf of bread and number of eggs to purchase.

```

import java .io.*;
class bill

```

```

{
    public static void main(String[] args)
    {
        DataInputStream in= new DataInputStream(System.in);
        double cd=23.5, ce=5.75,bill=0.0;
        int nb,ne;

        try
        {
            System.out.print("Enter Number of Loafs of bread to purchase : ");
            nb=Integer.parseInt(in.readLine());
            System.out.print("Enter Number of eggs to purchase : ");
            ne=Integer.parseInt(in.readLine());
            bill = nb*cd + ne*ce;
            System.out.println("Total Bill = "+bill);
        }
        catch(Exception e)
        {};
    }
}

```

17. Write a program to enter Principal, Rate and Time. Calculate and display Simple Interest and Amount.

```

import java.io.*;
class bank
{
    public static void main(String args[])
    {
        DataInputStream in = new DataInputStream(System.in);
        double p,t,r,s=0.0,a=0.0;

        try
        {
            System.out.print("Enter Principal : ");
            p=Double.parseDouble(in.readLine());
            System.out.print("Enter Rate : ");
            r=Double.parseDouble(in.readLine());
            System.out.print("Enter Time : ");
            t=Double.parseDouble(in.readLine());
            s=(p*t*r)/100.0;
            a=p+s;
            System.out.println("Simple Interest = "+s);
            System.out.println("Amount = "+a);
        }
        catch(Exception e)
        {};
    }
}

```


18. Write a program to enter length and breadth of rectangular field. Calculate and display its area, perimeter and diagonal.

```
import java.io.*;
class rect
{
    public static void main(String args[])
    {
        DataInputStream in = new DataInputStream(System.in);

        double l,b,a=0.0,p=0.0,d=0.0d;
        try
        {
            System.out.print("Enter Length : ");
            l=Double.parseDouble(in.readLine());
            System.out.print("Enter Breadth : ");
            b=Double.parseDouble(in.readLine());
            a=l * b;
            p = 2*(l + b);
            d = Math.sqrt(l*l + b*b);
            System.out.println("Area of Rectangle = "+a);
            System.out.println("Perimeter of Rectangle = "+p);
            System.out.println("Diagonal of Rectangle = "+d);
        }
        catch(Exception e)
        {};
    }
}
```

19. Write a program to input roll (int), Name (String), Class(String) Section (char) marks of three subjects(Float). Calculate and display total and average marks.

```
import java.io.*;
class datatype
{
    public static void main(String args[])
    {
        DataInputStream in = new DataInputStream(System.in);
        int rl;
        float tot,m1,m2,m3, avg=0.0;
        char sec;
        String nm,,cl,x;

        try
        {
            System.out.print("Enter Roll no : ");
            rl=Integer.parseInt(in.readLine());
            System.out.print("Enter Name : ");
            nm=in.readLine();
```

```

        System.out.print("Enter Class : ");
        cl=in.readLine();
        System.out.print("Enter section : ");
        sec=(char)in.read();
        x=in.readLine();
        System.out.print("Enter Marks of subject-1 : ");
        m1=Float.parseFloat(in.readLine());
        System.out.print("Enter Marks of subject-2 : ");
        m2=Float.parseFloat(in.readLine());
        System.out.print("Enter Marks of subject-3 : ");
        m3=Float.parseFloat(in.readLine());

        tot=m1+m2+m3;
        avg=tot/3.0f;

        System.out.println("Total Marks : "+tot);
        System.out.println("Average marks : "+avg);
    }
    catch(Exception e)
    {}
}
}

```

20. Write a program in java to input number of days. Find and display number of years, months and days.

```

import java.io.*;
class days
{
    public static void main(String args[])
    {
        DataInputStream in = new DataInputStream(System.in);
        int d,y,m=0;

        try
        {
            System.out.print("Enter no of days :");
            d=Integer.parseInt(in.readLine());

            y=d/365;
            d=d%365;
            m=d/30;
            d=d%30;

            System.out.println("Number of Years =" +y);
            System.out.println("Number of Months =" +m);
            System.out.println("Number of Days =" +d);
        }
    }
}

```

```

        catch(Exception e)
        {}
    }
}

```

21. Write a program to input basic pay of an employee. Calculate da, hra,pf, gp and np. Display gp and np. Where da= 24% of bp, hra = 15% of bp, pf = 8.33 of bp. gp = bp+da+hra, np = gp-pf.

```

import java .io.*;
class salary
{
    public static void main(String[] args)
    {
        DataInputStream in= new DataInputStream(System.in);
        double bp,da,hra,pf,np,gp;
        bp=da=hra=pf=np=gp=0.0d;

        try
        {
            System.out.print("Enter Basic Pay : ");
            bp=Double.parseDouble(in.readLine());

            da=(24/100.0)*bp;
            hra=(15/100.0)*bp;
            pf=(8.33/100.0)*bp;
            gp = bp+da+hra;
            np = gp-pf;

            System.out.println("Gross Pay of employee = "+gp);
            System.out.println("Net Pay of employee = "+np);
        }
        catch(Exception e)
        {}
    }
}

```

22. Write a program to enter temperature in Fahrenheit and convert it to temperature in Celsius using formula $c = 5/9(f-32)$.

```

import java .io.*;
class temperature
{
    public static void main(String[] args)
    {
        DataInputStream in= new DataInputStream(System.in);
        double f,c=0.0d;

```

```

        try
        {
            System.out.print("Enter Temperature in Fahrenheit : ");
            f=Double.parseDouble(in.readLine());

            c = (5/9.0)*(f-32.0);

            System.out.println("Temperature in Celsius = "+c);
        }
        catch(Exception e)
        {};
    }
}

```

23. Write a program in java to enter 3 sides of a triangle. Calculate and display its area using the formula.

$$\text{Area} = \sqrt{s(s-a)(s-b)(s-c)}$$

```

import java .io.*;
class triangle
{
    public static void main(String[] args)
    {
        DataInputStream in= new DataInputStream(System.in);
        double a,b,c,s=0.0d,ar=0.0d;

        try
        {
            System.out.println("Enter 3 side of a Triangle : ");
            a=Double.parseDouble(in.readLine());
            b=Double.parseDouble(in.readLine());
            c=Double.parseDouble(in.readLine());

            s=(a+b+c)/2.0d;
            a = Math.sqrt(s*(s-a)*(s-b)*(s-c));

            System.out.println("Area of Triangle = "+a);
        }
        catch(Exception e)
        {};
    }
}

```

24. Write a program to input radius and height of a cone. Calculate and print the volume of the cone using formula: $v=1/3\pi r^2h$.

```
import java .io.*;
class cone
{
    public static void main(String[] args)
    {
        DataInputStream in= new DataInputStream(System.in);
        double r,h,v=0.0d,p=22/7.0d;

        try
        {
            System.out.println("Enter Radius and Height of Cone : ");
            r=Double.parseDouble(in.readLine());
            h=Double.parseDouble(in.readLine());

            v = (1/3.0d)*p*Math.pow(r,2)*h;

            System.out.println("Area of Cone = "+v);
        }
        catch(Exception e)
        {};
    }
}
```

25. Write a program that will allow the cashier to input Marked Price of the product. The shop keeper offers successive discounts as 50% + 75% on the Marked Price. Calculate and display the successive discount and Selling Price.

```
import java .io.*;
class MarkedPrice
{
    public static void main(String[] args)
    {
        DataInputStream in= new DataInputStream(System.in);
        double mp,d1,d2,nmp,sp;
        mp=d1=d2=nmp=sp=0.0;

        try
        {
            System.out.print("Enter Marked Price of Product : ");
            mp=Double.parseDouble(in.readLine());

            d1 = (50/100.0)*mp;
            nmp = mp-d1;
            d2 = (75/100.0)*nmp;
            sp=nmp-d2;
        }
    }
}
```

```

        System.out.println("Discount-1 @ 50% = "+d1);
        System.out.println("Discount-2 @ 75% = "+d2);
        System.out.println("Selling Price = "+sp);
    }
    catch(Exception e)
    {}
}
}

```

26. Write a program to enter distance in km and time in hours. Calculate and display the speed in km/hr and m/sec.

```

import java .io.*;
class Speed
{
    public static void main(String[] args)
    {
        DataInputStream in= new DataInputStream(System.in);
        double d,t,s1,s2;
        s1=s2=0.0;

        try
        {
            System.out.print("Enter Distance in Kilometer : ");
            d=Double.parseDouble(in.readLine());
            System.out.print("Enter Time in Hours : ");
            t=Double.parseDouble(in.readLine());

            s1 = d/t;
            s2 = s1*(5/18.0); // to convert Km/Hr to m/sec multiply by 5/18

            System.out.println("Speed in Km/Hr = "+s1);
            System.out.println("Speed in m/sec = "+s2);
        }
        catch(Exception e)
        {}
    }
}

```

27. Write a program to input values of variable u, t, a respectively. Find and display the value of the following expression. $s = ut + (1/2)at^2$

```

import java .io.*;
class Expression
{
    public static void main(String[] args)
    {
        DataInputStream in= new DataInputStream(System.in);
        double u,t,a,s=0.0d;
    }
}

```

```

try
{
    System.out.print("Enter Value of a : ");
    a=Double.parseDouble(in.readLine());
    System.out.print("Enter Value of t : ");
    t=Double.parseDouble(in.readLine());
    System.out.print("Enter Value of u : ");
    u=Double.parseDouble(in.readLine());

    s = (u*t) + (1/2.0d)*a*Math.pow(t,2);

    System.out.println("Value of S = "+s);
}
catch(Exception e)
{};
}
}

```

28. Write a program to input values of a, b, c and x (Integer Values). Compute and display the value of v, where $v = ax^3 + (bx)^2 + abc + 2bc$

```

import java .io.*;
class Evaluate
{
    public static void main(String[] args)
    {
        DataInputStream in= new DataInputStream(System.in);
        int a,b,c,x;
        double v=0.0d;

        try
        {
            System.out.print("Enter Value of a : ");
            a=Integer.parseInt(in.readLine());
            System.out.print("Enter Value of b : ");
            b=Integer.parseInt(in.readLine());
            System.out.print("Enter Value of c : ");
            c=Integer.parseInt(in.readLine());
            System.out.print("Enter Value of x : ");
            x=Integer.parseInt(in.readLine());

            v = a*Math.pow(x,3) + Math.pow((b*x),2) + a*b*c - 2*b*c;

            System.out.println("Evaluated Value of v = "+v);
        }
        catch(Exception e)
        {};
    }
}

```

```
}
```

29. The sum of interior angles of polygon = (n - 2) x 180, where n = number of sides of the polygon. Write a program to enter number of sides of a polygon and find and display the sum of the interior angles of a polygon.

```
import java .io.*;
class Polygon
{
    public static void main(String[] args)
    {
        DataInputStream in= new DataInputStream(System.in);
        int n,sum=0;

        try
        {
            System.out.print("Enter Number of sides of a polygon : ");
            n=Integer.parseInt(in.readLine());

            sum = (n-2)*180;

            System.out.println("Sum of the interior angles of polygon = "+sum);
        }
        catch(Exception e)
        {};
    }
}
```

30. Write a program to input necessary values and evaluate the following expression.

$$S = \sqrt{\frac{a^2}{b^5} + c^2}$$

```
import java .io.*;
class Expression
{
    public static void main(String[] args)
    {
        DataInputStream in= new DataInputStream(System.in);
        int a,b,c;
        double s=0.0d;

        try
        {
            System.out.println("Enter Vales of a, b and c : ");
            a=Integer.parseInt(in.readLine());
            b=Integer.parseInt(in.readLine());
            c=Integer.parseInt(in.readLine());
        }
    }
}
```



```
s= Math.sqrt((Math.pow(a,2)/Math.pow(b,5))+Math.pow(c,2));  
    System.out.println("Evaluated Value of s = "+s);  
    }  
    catch(Exception e)  
    {}  
    }  
}
```

Note: Any other program can be done provided the formula is given
