

**ST. JOSEPH'S COLLEGE**  
**YEAR 2020-2021**  
**TERM I**  
**COMPUTER**  
**CLASS 8**  
**JAVA PROGRAMS**

**1. Write a program to display the following pattern on the screen.**

```
#  
##  
###  
####  
#####  
#####  
#####  
#####
```

```
class Hash  
{  
    public static void main()  
    {  
        System.out.println("#");  
        System.out.println("##");  
        System.out.println("###");  
        System.out.println("####");  
        System.out.println("#####");  
        System.out.println("#####");  
        System.out.println("#####");  
    }  
}
```

**Please Note**  
**This is a sample.**  
Similar patterns can be made  
using any character.

Example:

```
*  
**  
***  
****
```

**2. Write a program to display the following pattern on the screen.**

```
@@@@@@@@@
@           @
@           @
@           @
@           @
@           @
@@@@@@@@@
```

```
class Pattern
{
    public static void main()
    {
        System.out.println("@@@@@@@@@");
        System.out.println("@           @");
        System.out.println("@           @");
        System.out.println("@           @");
        System.out.println("@           @");
        System.out.println("@           @");
        System.out.println("@@@@@@@@@");
    }
}
```

**Please Note**  
**This is a sample.**  
Similar patterns can be made using any character.

```
1
1-1
1--1
1111
```

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

```
F
FR
FRE
FREE
FREED
FREEDO
FREEDOM
```

```
class Freedom
{
    public static void main()
    {
        System.out.println("F");
        System.out.println("FR");
        System.out.println("FRE");
        System.out.println("FREE");
        System.out.println("FREED");
        System.out.println("FREEDO");
        System.out.println("FREEDOM ");
    }
}
```

**Please Note**

**This is a sample.**

Similar **upright right angled triangle patterns** can be made using any given word

- 4. Write a Program to display your Bio-Data consisting of your Name, Father's Name, Address, City, State, Contact Number and Email ID in consecutive lines.**

```
class Biodata
{
    public static void main()
    {
        System.out.println("BIO-DATA");
        System.out.println("Name : Ramanl Banerjee");
        System.out.println("Father's Name : Rana Banerjee");
        System.out.println("Address : 13A, M.G. Road");
        System.out.println("City : Kolkata");
        System.out.println("State : West Bengal");
        System.out.println("Contact Number : 9832198321");
        System.out.println("Email ID : ramani.banerjee@gmail.com");
    }
}
```

**Note : Type Your Own Details in place of sample data**

5. 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, diff, prod, quo, rem;

        //calculation
        sum=a+b;
        diff=a-b;
        prod=a*b;
        quo=a/b;
        rem=a%b;

        //output
        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("Remainder of the Numbers = "+rem);
    }
}
```

**6. Write a program in java to assign 5768 in a variable. Find and display**

- i) Double the Number**
- ii) Half the Number**
- iii) 2/7 of the number**

```
class Compute
{
    public static void main()
    {
        //declaration
        int a=5768, d=0;
        double h =0.0, f=0.0;

        // calculation
        d=a*2;
        h=(1/2.0)*a; // OR h=0.5*a; OR h=(1.0/2.0)*a; OR h=(1.0/2) *a;
        f=(2/7.0)*a;

        //display
        System.out.println("Number = "+a);
        System.out.println("Double the Number = "+d);
        System.out.println("Half the number = "+h);
        System.out.println("2/7 of the number = "+f);
    }
}
```

7. 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 Speed
{
    public static void main()
    {
        //DECLARATION
        float d1=120.5f, d2=160.75f, d3=140.9f;
        float t1=2.3f , t2=3.5f, t3=5.5f;
        float td=0.0f, tt=0.0f, avgSp =0.0f;

        //calculate
        td=d1+d2+d3;
        tt=t1+t2+t3;
        avgSp = td/tt;

        //show answer
        System.out.println("Average Speed = "+ avgSp);
    }
}
```

**Please Note**  
**float a = 2.05f;**

2.05 refers to double data type by default.

Note : the f after the constant 2.05 – converts data to float type

8. 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()
    {
        //declaration
        double s1=4325.0, s2=4996.5, s3=8935.5, s4=9960.75;
        double tot = 0.0, avg = 0.0;

        //calculation
        tot = s1+s2+s3+s4;
        avg = tot/4.0;

        //output
        System.out.println("Total Sales = "+tot);
        System.out.println("Average Sales = "+avg);
    }
}
```

<p style="text-align: center;"><b>Please Note</b> <b>This is a sample.</b> Similar <b>problems on calculation of average</b> can be expected.</p>
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9. 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, when the customer purchases 12 loaves of bread and 2½ dozens of eggs.

```
class Bill
{
    public static void main()
    {
        //declaration
        double cbread=23.5, cegg=5.75, eggs=0.0, bill=0.0;
        int loaf = 12;

        //calculation
        eggs = 2.5 * 12; //total number of eggs in 2½ dozens
        bill = cbread *loaf + cegg * eggs;

        //print bill
        System.out.println("Total Bill = "+bill);
    }
}
```

<p style="text-align: center;"><b>Please Note</b> <b>This is a sample.</b> Similar <b>problems on calculation of bill</b> can be expected.</p>
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**10. Write a program to calculate and display the area and perimeter of a rectangle field whose length is 52mts 50cm and breadth 23mts and 15cm.**

```
class Rect
{
    public static void main()
    {
        //declaration
        double l = 0.0, b = 0.0, a=0.0, p=0.0;

        //conversion to mt
        l = 52 + 50/100.0;
        b = 23 + 15/100.0;

        //calculation
        a = l * b;
        p = 2*(l + b);

        //output
        System.out.println("Area of Rectangle = "+a + " sq. mt ");
        System.out.println("Perimeter of Rectangle = "+p + " mt" );
    }
}
```

<p style="text-align: center;"><b>Please Note</b> <b>This is a sample.</b> Similar <b>problems on mensuration</b> can be expected.</p>
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**11. The average income over 4 weeks is Rs. 3545. When calculation is done for 5 weeks, the new average is Rs. 3280. Find and display the income in the last week.**

```
class Income
{
    public static void main()
    {
        double avg4=3545.0, avg5=3280.0;
        double tot4=0.0, tot5=0.0, inc5 = 0.0;

        //calculate
        tot4 = avg4 * 4;
        tot5 = avg5 * 5;
        inc5 = tot5 - tot4;

        System.out.println("INCOME IN WEEK 5 = Rs"+ inc5);
    }
}
```

<p style="text-align: center;"><b>Please Note</b> <b>This is a sample.</b> Similar <b>problems on calculation of average</b> can be expected.</p>
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**12. Write a program to convert 6975 sec to hr, min and sec and display result.**

```
class Time
{
    public static void main()
    {
        int s = 6975;
        int h=0, m=0, sec=0;

        //calculate
        h = s/(60*60);
        sec = s%(60*60);
        m = sec/60;
        sec = sec % 60;

        //print
        System.out.println(s + " sec = "+ h + " hours : "+m+" min : " +
sec+" sec");
    }
}
```

**Please Note**

**This is a sample.**

Similar **problems on conversion** can be expected.

**13. In a school, only 28% of students are girls. If there are 800 students in the school, calculate and display the number of boys and girls studying in the school.**

```
class School
{
    public static void main()
    {
        int total=800, girls=0, boys=0;

        girls = (total*28)/100;
        boys = total-girls;

        System.out.println("Total number of students = "+total);
        System.out.println("Total number of girls = "+ girls);
        System.out.println("Total number of boys = "+ boys);
    }
}
```

<p style="text-align: center;"><b>Please Note</b> <b>This is a sample.</b> Similar <b>problems on percentage</b> can be expected.</p>
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