Assignment -1


```
//Q1: WAP to print star pattern
//program:
    public class StarPattern {
        public static void main(String args[]){
            System.out.println("*");
            System.out.println("**");
            System.out.println("***");
            System.out.println("****");
        }
    }
```

```
//output:
*
**
***
****
```

```
//Q2: WAP to print a smiley emoji
//program:
    public class SmileyEmoji {
        public static void main(String args[]){
            system.out.println(" :-)");
        }
    }
```

```
//output:
 :-)
```

```
//Q3: WAP to print a poem.
//program:
    public class Poem{
        public static void main(String args[]){
            System.out.println("Hold fast to dreams");
            system.out.println(" for if dreams die");
            system.out.println(" Life is a broken-winged bird");
            system.out.println(" That cannot fly.");
        }
    }
```

```
//output:
        Hold fast to dreams
        For if dreams die
        Life is a broken-winged bird
        That cannot fly.
//Q4: Calculate Simple Interest.
    public class SimpleInterest{
        public static void main(String args[]){
            float p=1000, r=5, t=2;
            float si=(p*r*t)/100;
            System.out.println("Simple Interest is:"+si);
        }
    }
//output:
        Simple Interest is: 100.0

//Q5: WAP to find the size of primitive datatypes.
//program:
    public class DatatypeSize{
        public static void main(String arg[]){
            System.out.println("Byte:"+Byte.BYTES+"bytes");
            System.out.println("Short:"+Short.BYTES+"bytes");
            System.out.println("Int:"+Integer.BYTES+"bytes");
            System.out.println("Long:"+Long.BYTES+"bytes");
            System.out.println("Float:"+Float.BYTES+"bytes");
            System.out.println("Double:"+Double.BYTES+"bytes");
            System.out.println("Char:"+Character.BYTES+"bytes");
        }
    }
```

//output:

Byte: 1 bytes
Short: 2 bytes
Int: 4 bytes
Long: 8 bytes
Float: 4 bytes
Double: 8 bytes
Char: 2 byte.

//Q6: WAP to swap values of two variables without using third variable.

//Program:

```
public class Swap{
    public static void main (String args[]){
        int a=5, b=10;
        a= a+b;
        b = a-b;
        a = a-b;
        System.out.println("After swap: a=" + a+",
                                b =" +b);

    }
}
```

//output:

After swap: a=10, b=5

//Q7: WAP to find area and perimeter of a circle, where diameter = 20.8

//Program:

```
public class CAP{
    public static void main (String args[]){
        double diameter = 20.8;
        double radius = diameter /2;
        double area = Math.PI * radius * radius;
        double perimeter = 2 * Math.PI * radius;
        System.out.println("Area =" + area);
        System. out. println ("perimeter =" + perimeter);
}}
```

//output:

Area = 339.7946614122720 3

perimeter = 65.34512719466 77

//Q8: WAP to display reverse of two digit number.

//Program:

```
public class Reverse{
    public static void main(String args[]){
        int num = 45;
        int rev = (num %10) *10 + (num/10);
        System.out.println("Reverse =" +rev);
    }
}
```

//output:

Reverse=54

//Q9: WAP to find the maximum combination of 100rs.

//Program:

```
public class NoteComb {
    public static void main (String args[]){
        int amount = 100;
        int n50, n20, n10, n5, n2, n1;
        int rem;
        n50 = amount /50;
        rem = amount %50;
        n20 = rem/20;
        rem = rem%20;
        n10 = rem/10;
        rem = rem%10;
        n5 = rem/5;
        rem = rem%5;
        n2 = rem/2;
        rem = rem%2;
        n1 = rem;
```

```
System.out.println("Maximum combination of 100 rupees:");
System.out.println("50 rupee notes:" + n50);
System.out.println("20 rupee notes:" + n20);
System.out.println("10 rupee notes:" + n10);
System.out.println("5 rupee notes:" + n5);
System.out.println("2 rupee notes:" + n2);
System.out.println("1 rupee notes:" + n1);

    }
}
```

//Output:

Maximum combination of 100 rupees:
50 rupee notes: 2
20 rupee notes: 0
10 rupee notes: 0
5 rupee notes: 0
2 rupee notes: 0
1 rupee notes: 0

//Q10: WAP to perform arithmetic operations on two numbers.

//Program:

```
public class Arithmetic{
 public static void main(String args[]){
    int a=20, b=5
    System.out.println("Addition:" +(a+b));
    System.out.println("Subtraction:" +(a-b));
    System.out.println("Multiplication:" +(a*b));
    System.out.println("Division:" +(a/b));
    System.out.println("Modulus:" +(a%b));
 }}
```

```
//output:
        Addition: 26
        Subtraction: 14
        Multiplication: 120
        Division: 3
        Modulus: 2
```

//Q11: WAP to Find Largest of three numbers using relation operators.

```
//program:
    public class Largest{
      public static void main(String args[]){
        int a=10, b=250, c=200;
        int largest;
        largest=(a>b && a>c)?a:(b>c ?b:c);
        System.out.println("Largest One is: "+largest);
      }
    }
```

```
//output:
        Largest One is: 250
```

//Q12: WAP to check whether a number is even or odd using modulus operator

```
//program:
    public class EvenOdd{
      public static void main(String args[]){
        int num=11;
        if (n%2==0)
            System.out.println("Even");
        else
            System.out.println("Odd");
      }
    }
//output:
        Odd
```

//Q13: WAP to check if a year is Leap year using logical operators.

//program:

```
public class LeapYear{
public static void main(String args[]){
    int year=2024;
    if(year%4==0 && year%100!=0)||year%400==0)
        System.out.println(year+" is a leap year");
    else
        System.out.println(year+" is not a leap year");
}
}
```

//Output

2024 is a leap year.

//Q14: WAP to calculate average of three numbers using operators.

//program:

```
public class Avg{
public static void main(String args[]){
    float a=5, b=10, c=15;
    float avg=(a+b+c)/3;
    System.out.println("Average is: "+avg);
}
}
```

//Output:

Average is: 10.0

//Q15: WAP to Demonstrate bitwise operator (&, |, ^, ~, <<, >>)

//program:

```
public class BitOp{
 public static void main(String args[]){
   int a=5, b=3;
 System.out.println("a&b =" + (a&b));
 System.out.println("a|b =" + (a|b));
 System.out.println("a^b =" + (a^b));
 System.out.println("~a =" + (~a));
 System.out.println("a<<1 =" + (a<<1));
 System.out.println("a>>1 =" + (a>>1));
 }
}
```

//output:

```
a&b = 1
a|b = 7
a^b = 6
~a = -6
a<<1 = 10
a>>1 = 2
```

//Q16: WAP to calculate final price after discount

//program:

```
public class Discount{
 public static void main(String args[]){
   float price=500, discount =10;
   float finalprice;
 finalprice = price - (price * discount /100);
 System.out.println("Final price is:" +finalPrice);
 }
}
```

//output: Final Price is: 450.0

//Q17: WAP to calculate sum of digits of a number using operators.

//program:

```
public class SumOfD{
public static void main(String args[]){
    int num = 1234;
    int sum = 0;
    int d1, d2, d3, d4;

    d1 = num/1000;
    d2 = (num/100) % 10;
    d3 = (num/10) % 10;
    d4 = num % 10;
    sum = d1+d2+d3+d4;
  System.out.println("Sum of Digits: "+sum);
  }
}
```

//Output:

Sum of Digits: 10

//Q18: WAP to find remainder without using % operator.

//program:

```
public class Rem{
public static void main(String args[]){
    int a=17, b=5;
    int rem = a-(a/b) * b;
    System.out.println("Remainder is: "+rem);
  }
}
```

//Output:

Remainder is: 2

//Q19: WAP to convert temperature from Celsius to Fahrenheit and vice versa

//Program:

```
public class Temp{
  public static void main(String args[]){
    float c=25
    float f=(c*9/5)+32;
    System.out.println("Celsius to Fahrenheit:"+f);
    float f2=77;
    float c2=(f2-32)*5/9;
    System.out.println("Fahrenheit to Celsius:"+c2);
  }
}
```

//Output:

```
Celsius to Fahrenheit:77.0
Fahrenheit to Celsius:25.0
```

//Q20: WAP to calculate perimeter and area of a rectangle.

//Program:

```
public class APR{
  public static void main(String args[]){
    float length=10, width=5;
    float area,perimeter;
    area = length * width;
    perimeter =2*(length * width);
    System.out.println("Area =" +area);
    System.out.println("Perimeter =" +perimeter);
  }
}
```

//Output:

```
Area =50.0
perimeter =30.0
```