```java
package JAVA;

public class Welcome {
    public static void main(String[] args)
    {
        System.out.println("Hello welcome all to the Java concepts");
    }
}
```

OUTPUT:

```
Hello welcome all to the Java concepts
```

THROWS EXCEPTION:

```java
package JAVA;

public class ThrowsException {
    public static int divideNum(int m, int n) throws ArithmeticException{
        int div = m/n;
        return div;
    }
    public static void main(String[] args) {
        try {
            System.out.println(divideNum(45,0));
        }
        catch(ArithmeticException e) {
            System.out.println("\nNumber cannot be divided by 0");
        }
        System.out.println("Rest of the code...");
    }
}
```

OUTPUT:

```
Number cannot be divided by 0
Rest of the code...
```

THROW EXCEPTION:

```java
package JAVA;

public class ThrowException {
    public static void checkNum(int num) {

        if(num < 1) {
            throw new ArithmeticException("\nNumber is negative, cannot calculate square");
        }

        else {
```

```java
                        System.out.println("Square of " + num + "is" + (num*num));
            }
        }
public static void main(String[]args) {
        checkNum(-3);
        System.out.println("Rest of the code...");

        }
}
```

OUTPUT:

```
Exception in thread "main" java.lang.ArithmeticException:
Number is negative, cannot calculate square
        at Java/JAVA.ThrowException.checkNum(ThrowException.java:7)
        at Java/JAVA.ThrowException.main(ThrowException.java:15)
```

SWITCH CASE:

```java
package JAVA;

import java.util.Scanner;

public class Switchcase {
        public static void main(String[] args) {
                int age;
                Scanner input = new Scanner(System.in);
                System.out.println("Enter your age");
                age = input.nextInt();
                switch (age)
                {
                case 1:
                        System.out.println("You can crawl");
                        break;
                case 2:
                        System.out.println("You can talk");
                        break;
                case 3:
                        System.out.println("You can get in trouble");
                        break;
                default:
                        System.out.println("I dont know how yor are");
                        break;

                }
        }
}
```

OUTPUT:

```
Enter your age
23
I dont know how yor are
```

SUPER KEYWORD:

```java
package JAVA;
```

```java
class ABC{
      public void myMethod() {
      System.out.println("Overridden method...");
      }
}

class Demo extends ABC{
      public void myMethod() {
            super.myMethod();
            System.out.println("Overriding method...");
      }
}
public class superKeyword {
      public static void main(String[] args) {
            Demo obj = new Demo();
            obj.myMethod();
      }
}
```

OUTPUT:

```
Overridden method...
Overriding method...
```

Write a java program to find continuous sub array whose sum is equal to a given number

```java
package JAVA;



import java.util.Arrays;

import java.util.Scanner;



public class SubArrayPG {

        public static void subarray(int arr[], int n, int sum)

        {

                int currentsum,i,j;

                for(i=0;i<n;i++)

                {

                        currentsum = arr[i];

                        for(j=i+1;j<=n;j++)
```

```java
                    {
                        if(currentsum == sum)
                        {
                            int p = j-1;
                            System.out.println("Sum found between
indexes " + i + "and" + p);


                        }
                        if(currentsum > sum || j == n)
                            break;
                        currentsum = currentsum + arr[j];
                    }
                }
            System.out.println("No subarray found");


        }


        public static void main(String[] args)
        {
            int n;
            Scanner sc = new Scanner(System.in);
            System.out.println("Enter number of elements:");
            n = sc.nextInt();
            int[] array = new int[100];
            System.out.println("Enter elements of the array:");
            for(int i=0;i<n;i++)
            {
                array[i]=sc.nextInt();
```

```
                }

                System.out.println("Enter value of sum:");

                int sum = sc.nextInt();

                subarray(array, n, sum);

        }

}
```

OUTPUT:

```
Enter number of elements:
6
Enter elements of the array:
6 3 4 5 1 2
Enter value of sum:
123
No subarray found
```

SINGLE INHERITANCE:

```java
package JAVA;

class Animal{
      void eat()
      {
              System.out.println("Eating....");
      }
}

class Dog extends Animal{
      void bark() {
              System.out.println("Barking....");
              }
      }

class SingleInheritance {
      public static void main(String[] args) {
              Dog d = new Dog();
              d.eat();
              d.bark();
      }
}
```

OUTPUT:

```
Eating....
Barking....
```

Write a java program to separate zeros from non-zeros in an integer array

```java
package JAVA;

public class SeparateZeroAndNonzeroPG {
    static int a[] = {1,4,3,4,0,1};
    static int k=6;
    static int n=a.length;
    public static void move0toEnd()
    {
        int bigin=0;
        for(int i=0;i<n;i++)
        {
            if(a[i]!=0)
            {
                a[bigin]=a[i];
                bigin+=1;
            }
        }
        while(bigin<n)
        {
            a[bigin]=0;
            bigin+=1;
        }
    }
    public static void main(String[] args)
    {
        move0toEnd();
        for(int i:a)
            System.out.println(i+" ");
    }
}
```

OUTPUT:

1
4
3
4
1
0

Write a java program to find second largest element in an array of integers

```java
package JAVA;

public class SecondLargestElementPG {
    public static int getSecondLargest(int[] a, int total)
    {
        int temp;
        for(int i=0;i<total;i++)
        {
            for(int j=i+1;j<total;j++)
            {
                if(a[i] > a[j])
                {
                    temp = a[i];
                    a[i] = a[j];
                    a[j] = temp;
                }
```

```java
            }
        }
        return a[total-2];

    }
    public static void main(String[] args)
    {
        int a[] = {1,2,5,6,3,2};
        int b[] = {44,66,99,77,33,22,55};
        System.out.println("SecondLargest:" + getSecondLargest(a,6));
        System.out.println("SecondLargest:" + getSecondLargest(b,7));


    }
}
```

```
SecondLargest:5
SecondLargest:77
```

Write a java program to reverse an array without using an additional array?

```java
package JAVA;

import java.util.Scanner;

public class ReverseOfArrayPG {
    public static void main(String[] args)
    {
        int[] arr = new int[] {1,2,3,4,5};
        System.out.println("Original array:");
        for(int i=0;i<arr.length;i++)
        {
            System.out.println(arr[i]+" ");
        }
        System.out.println();
        System.out.println("Array in reverse order");
        for(int i=arr.length-1;i>=0;i--)
        {
            System.out.println(arr[i] +" ");
        }
    }

}
```

OUTPUT:

```
Original array:
1
2
3
4
5

Array in reverse order
5
```

```
4
3
2
1
```

PASSING PARAMETERS:

```java
package JAVA;

public class PassingParameters
{

//passing parameter----
        public static void myMethod(String name, int age)
        {
                System.out.println(name + " bharathi" + " is " + age);
        }

//passing parameter using void----
public static void add(int a, int b)
{
        int c=a+b;
        System.out.println(c);
}

//passing parameter using int-----
public static int sub(int x, int y)
{
        return x-y;
}

//Passing parameters using if-else ststement------
public static void Age(int age)
{
        if (age<18)
        {
                System.out.println("Access denied");
        }
        else
        {
                System.out.println("Access granted");
        }
}

//passing non-static by using another class
public void mul(int m, int n, int o)
{
        int p=m*n*o;
        System.out.println(p);
}

//Main method-----
        public static void main(String[] args)
        {
                myMethod("Deepa", 23); //passing parameter
                myMethod("Femina", 24);
                myMethod("Sasikala", 51);
```

```java
        add(3,7); //using void

        int z = sub(9,3); //using int
        System.out.println(z);

        Age(23); //using if-else


    }
}
```

OUTPUT:

```
Deepa bharathi is 23
Femina bharathi is 24
Sasikala bharathi is 51
10
6
Access granted
```

PASSING NON-STATIC MAIN:

```java
package JAVA;

public class passingNonStaticMain
{
    public static void main(String[] args)
    {
    PassingParameters b = new PassingParameters();
    b.mul(4,4,7);
    }
}
```

OUTPUT:

```
112
```

Write a java program to find all pairs of elements in an integer array whose sum is equal to a given number

```java
package JAVA;

public class PairingOfElementPG {
    public static void main(String[] args)
    {
        int[] arr = {1,5,7,-1,5};
        int k = 6;
        getParisCount(arr,k);
    }
    public static void getParisCount(int[] arr, int k)
    {
        int count = 0;
        for(int i = 0; i <arr.length; i++)
            for(int j = i+1; j <arr.length; j++)
                if((arr[i] + arr[j]) ==k)
```

```
                                count ++;
            System.out.printf("Count of pairs is %d", count);

        }
}
```

```
Count of pairs is 3
```

INTERFACE:

```java
package JAVA;

interface Drawable{
      void paint();
}

class Pentagon implements Drawable{
      public void paint() {
            System.out.println("Drawing Pentagon...");
      }
}

class Square implements Drawable{
      public void paint() {
            System.out.println("Drawing Square...");
      }
}

class MyInterface {
      public static void main(String[] args) {
            Drawable obj = new Square();
            Drawable ob = new Pentagon();
            obj.paint();
            ob.paint();
      }
}
```

OUTPUT:

```
Drawing Square...
Drawing Pentagon...
```

MULTIPLE ATTRIBUTES:

```java
package JAVA;

public class MultipleAttributes {
      String fname = "Deepa";
      String lname = "Bharathi";
      int age = 23;
      public static void main(String[] args)
      {
            MultipleAttributes obj = new MultipleAttributes();
            System.out.println("Name:" + obj.fname + " " + obj.lname);
```

```java
            System.out.println("Age:" + obj.age);
        }
}
```

OUTPUT:

```
Name:Deepa Bharathi
Age:23
```

MULTI-LEVEL INHERITANCE:

```java
package JAVA;

class petAnimal{
        void eat() {
                System.out.println("Eating....");
        }
}

class Monkey extends petAnimal{
        void bark() {
                System.out.println("Barking....");
        }
}

class BabyDog extends Monkey {
        void weep() {
                System.out.println("Weeping....");
        }
}

public class MultiLevelInheritance {
        public static void main(String[] args) {
                BabyDog d = new BabyDog();
                d.eat();
                d.bark();
                d.weep();
        }
}
```

OUTPUT:

```
Eating....
Barking....
Weeping....
```

MULTI-DIMENSIONAL ARRAY:

```java
package JAVA;

public class MultiDimensionalArray {
        public static void main(String[] args)
        {

//MULTI-DIMENSIONAL ARRAY
```

```java
            System.out.println("----------------Multi-dimensional array--------
-----------------------------");
            int[][] num = {{1,2,3,4,5},{6,7,8,9,10},{11,12,13,14,15}};
            System.out.println(num[2][4]);
```

//UPDATED

```java
            System.out.println("----------------Updated-----------------------
-----------------------------");
            int[][] number = {{1,2,3,4,5},{6,7,8,9,10},{11,12,13,14,15}};
            number[1][3] = 20;
            System.out.println(number[1][3]);
```

//USING LOOP

```java
            System.out.println("----------------Using loop--------------------
-----------------------------");
            int[][] num1 = {{1,2,3,4,5},{6,7,8,9,10}};
            for(int i = 0; i < num1.length; ++i)
            {
                for(int j = 0; j < num1[i].length; ++j)
                {
                    System.out.println(num1[i][j]);
                }
            }

        }
}
```

OUTPUT:

```
----------------Multi-dimensional array-----------------------------------
15
----------------Updated----------------------------------------------------
20
----------------Using loop-------------------------------------------------
1
2
3
4
5
6
7
8
9
10
```

MODIFY ATTRIBUTES:

```java
package JAVA;

public class ModifyAttributes {
    int x;
    int y = 23;
    final int z = 90; //final keyword cannot be changed
    public static void main(String[] args)
    {
```

```java
            //multiple objects

            ModifyAttributes obj = new ModifyAttributes();
            ModifyAttributes obj1 = new ModifyAttributes();
            obj.x = 45;
            System.out.println(obj.x);

            obj.y = 78; // y is now updated as 78
            System.out.println(obj.y);

            System.out.println(obj.z);

            obj1.x= 88;
            System.out.println(obj1.x);
        }
}
```

OUTPUT:

```
45
78
90
88
```

METHOD OVERRIDING:

```java
package JAVA;

class vechicle {
        void run() {
                System.out.println("Vechicle is running...");
        }
}

class bike extends vechicle{
        void run() {
                System.out.println("Bike is running safely...");
        }
}

public class MethodOverRiding{
        public static void main(String[] args) {
                bike obj = new bike();
                vechicle b = new vechicle();
                obj.run();
                b.run();
        }
}
```

OUTPUT:

```
Bike is running safely...
Vechicle is running...
```

METHOD OVERLOADING:

```java
package JAVA;

public class MethodOverLoading {

        double area(double l, double b)
        {
                return l*b;
        }

        double area(double s)
        {
                return s*s;
        }

        public static void main(String[] args)
        {
                MethodOverLoading obj = new MethodOverLoading();
                System.out.println("Area of Rectangle: " + obj.area(5.55,6.78));
                System.out.println("Area of Square: " + obj.area(3.45));
        }
}
```

OUTPUT:

```
Area of Rectangle: 37.629
Area of Square: 11.902500000000002
```

WHILE LOOP & DO-WHILE LOOP:

```java
package JAVA;

public class loop {
        public static void main(String[] args) {

//WHILE-LOOP

                System.out.println("While loop");
                int i=0;
                while (i < 5)
                {
                        System.out.println(i);
                        i++;
                }

//DO-WHILE LOOP

                System.out.println("Do while loop");
                int j = 1;
                do
                {
                        System.out.println("Hello World");
                        j++;
                }
                while (j < 6);
        }
}
```

```
While loop
0
1
2
3
4
Do while loop
Hello World
Hello World
Hello World
Hello World
Hello World
```

LOGICAL OPERATRS:

```java
package JAVA;

public class logicalOperators {
    public static void main(String[] args) {

        //AND--LOGICAL OPERATOR
        int a=5;
        System.out.println(a > 3 && a <10);

        //OR--LOGICAL OPERATOR
        int b=5;
        System.out.println(b> 3 || b < 4);

        //NOT--OPERATOR
        int z=5;
        System.out.println(!(a > 3 && a <10));

    }
}
```

OUTPUT:

```
true
true
false
```

Write a java program to find the intersection of two arrays?

```java
package JAVA;

public class intersectionOfArrayPG {
    public static void main(String[] args)
    {
        int myArray1[] = {23, 36, 96, 78, 55};
        int myArray2[] = {78, 45, 19, 73, 55};
        System.out.println("Intersection of the two array:");
        for(int i=0;i<myArray1.length;i++)
        {
            for(int j=0;j<myArray2.length;j++)
            {
```

```java
                    if(myArray1[i] == myArray2[j])
                    {
                            System.out.println(myArray2[j]);
                    }
                }
            }
        }
}
```

OUTPUT:

```
Intersection of the two array:
78
55
```

HIERARCHICAL INHERITANCE:

```java
package JAVA;

class Birds{
    void sing() {
            System.out.println("Singing...");
    }
}

class peacock extends Birds {
    void eat() {
            System.out.println("Eating...");
    }
}

class parrot extends Birds{
    void talk() {
            System.out.println("Talking...");
    }
}

public class HierarchicalInheritance {
    public static void main(String[] args) {
            parrot b = new parrot();
            b.sing();
            b.talk();
            System.out.println(" ");

            peacock p = new peacock();
            p.sing();
            p.eat();
    }
}
```

OUTPUT:

```
Singing...
Talking...

Singing...
Eating...
```

HASHMAP COLLECTION:

```java
package JAVA;
import java.util.HashMap;
public class hashMapCollection {
        public static void main(String[] args) {
        HashMap<String, String> city = new HashMap<String, String>();

        city.put("England","Asia");  //add items
        city.put("USA","UK");
        city.put("Chennai","America");
        city.put("Erode","Australia");
        System.out.println(city);

        System.out.println(city.get("Erode"));  //access an city

        city.remove("Asia"); //remove
        System.out.println(city);

        System.out.println(city.size()); //size
        }

    }
```

OUTPUT:

```
{USA=UK, Erode=Australia, Chennai=America, England=Asia}
Australia
{USA=UK, Erode=Australia, Chennai=America, England=Asia}
4
```

FOR LOOP:

```java
package JAVA;

public class ForLoop {
      public static void main(String[] args)
      {

//FOR LOOP

        System.out.println("--------------------FOR LOOP------------------
-----------------");
        for(int i=1;i<=10;i++)
        {
            System.out.println(i);
        }

//NESTED FOR LOOP

        System.out.println("--------------------NESTED FOR LOOP------------
-----------------");
        for(int j=1;j<=3;j++)
        {
            for(int k=1;k<=3;k++)
            {
```

```java
                    System.out.println(j + " " + k);
                }
            }
```

```java
            System.out.println("--------------------FOR EACH LOOP--------------
----------------");
            String[] cars = {"Volvo","BMW","Ford","Mazda"};
            for(String x : cars)
            {
                System.out.println(x);
            }
        }
}
```

OUTPUT:

```
7
8
9
10
--------------------NESTED FOR LOOP-----------------------------
1 1
1 2
1 3
2 1
2 2
2 3
3 1
3 2
3 3
--------------------FOR EACH LOOP-----------------------------
Volvo
BMW
Ford
Mazda
```

EXCEPTION HANDLING:

```java
package JAVA;

public class ExceptionHandling {
    public static void main(String[] args) {
        try {
            int divideByZero = 5/0;
        }

        catch(ArithmeticException e) {
            System.out.println("ArithmeticException " + e.getMessage());
        }

        finally {
            System.out.println("This is the finally block...");
        }
    }
}
```

```
 ArithmeticException / by zero
This is the finally block...
```

Write a java program to check the equality of two arrays

```java
package JAVA;

import java.util.Arrays;

public class EqualityOfAnArrayPG {
       public static void main(String[] args)
       {
               int[] a1 = new int[] {1,2,3,4,5,6,7,8};
               int[] a2 = new int[] {1,2,3,4,5,6,7,8};
               if(a1 == a2)
               {
                       System.out.println("Array are equal");
               }
               else
               {
                       System.out.println("Array are not equal");
               }


               int[] arr1 = new int[] {'a','b','c','d','e'};
               int[] arr2 = new int[] {'a','b','c','d','e'};
               if (Arrays.equals(arr1, arr2))
               {
                       System.out.println("Arrays are equal");
               }
               else
               {
                       System.out.println("Arrays are not equal");
               }
       }
}
```

OUTPUT:

```
Array are not equal
Arrays are equal
```

ENCAPSULATION:

```java
package JAVA;

class company {
       private int sno;
       private String empName;
       private int empAge;

       public int getEmpsno() {
               return sno;
       }
```

```java
        public String getEmpname() {
                return empName;
        }

        public int getEmpage() {
                return empAge;
        }

        public void setEmpsno(int newValue) {
                sno = newValue;
        }

        public void setEmpname(String newValue) {
                empName = newValue;
        }

        public void setEmpage(int newValue) {
                empAge = newValue;
        }
}

public class Encapsulation {
      public static void main(String[] args) {
              company obj = new company();
              obj.setEmpsno(101);
              obj.setEmpname("Deepa");
              obj.setEmpage(23);
              System.out.println("Employee S.No: " + obj.getEmpsno());
              System.out.println("Employee Name: " + obj.getEmpname());
              System.out.println("Employee Age: " + obj.getEmpage());
      }
}
```

OUTPUT:

```
Employee S.No: 101
Employee Name: Deepa
Employee Age: 23
```

Write a java program to find duplicate elements in an array?

```java
package JAVA;

public class DuplicateElementPG {
      public static void main(String[] args)
      {
              int[] arr = new int[] {1,2,3,4,2,7,8,8,3};
              System.out.println("Duplicate element in given array");
              for(int i = 0; i < arr.length; i++)
              {
                      for(int j = i+1 ; j < arr.length; j++)
                      {
                              if(arr[i] == arr[j])
                                      System.out.println(arr[j]);
                      }
              }
      }
}
```

Duplicate element in given array
2
3
8

DECISION STATEMENT:

```java
package JAVA;

public class decisionStatement
{
      public static void main(String[] args)
      {

//IF STATEMENT
            int a=20;
            int b=30;
            if(a<b)
            {
                  System.out.println("a is greater than b");
            }

//IF-ELSE STATEMENT
            int x=20;
            int y=30;
            if(a>b)
            {
                  System.out.println("x is greater than y");
            }
            else
            {
                  System.out.println("x is not greater than y");
            }

//ELSE-IF STATEMENT
            int time=22;
            if(time<10)
            {
                  System.out.println("Good morning");
            }
            else if(time<18)
            {
                  System.out.println("Good day");
            }
            else
            {
                  System.out.println("Good evening");
            }

//NESTED IF STATEMENT
            int m=30;
            int n=50;
            if(m==30)
            {
```

```java
                    if(n==40)
                    {
                    System.out.println("Correct answer");
                }
            else
            {
                    System.out.println("Wrong answer");
            }
            }
        }
}
```

OUTPUT:

```
a is greater than b
x is not greater than y
Good evening
Wrong answer
```

```java
package JAVA;

public class Datatypes {
        public static void main(String[] args)
        {
                //STRING--DATATYPE
                String name="Gnanadeepam";
                System.out.println("The name is " + name);

                //INT--DATATYPE
                int age=23;
                System.out.println("The age is " + age);

                //CHAR--DATATYPE
                char letter='G';
                System.out.println(letter);

                //FLOAT--DATATYPE
                float number=2.44f;
                System.out.println("The float number is: " + number);

                //BOOLEAN--DATATYPE
                boolean bool=true;
                String text="Hello";
                System.out.println("The boolean is: " + text);

                //DOUBLE--DATATYPE
                double num=23.23455665d;
                System.out.println("The double number is: " + num);

                //LONG--DATATYPE
                long max=987865645346567L;
                System.out.println("The long number is: " + max);

                //SHORT--DATATYPE
                short num1=10;
                System.out.println("The short number is: " + num1);
```

```java
//BYTE--DATATYPE
byte num2=100;
System.out.println("The byte number is: " + num2);

//MULTIPLE VARIABLE DECLARATION
int a=3, b=4, c=5;
System.out.println(a+b+c);

int d=4;
int e=6;
int f=2;
System.out.println(d+e+f);

//ONE VALUE TO MULTIPLE VARIABLES
int x,y,z;
x=y=z=4;
System.out.println(x+y+z);


    }

}
```

OUTPUT:

```
The name is Gnanadeepam
The age is 23
G
The float number is: 2.44
The boolean is: Hello
The double number is: 23.23455665
The long number is: 987865645346567
The short number is: 10
The byte number is: 100
12
12
12
```

CREATING MULTIPLE OBJECT:

```java
package JAVA;

public class creatingObject {
        int x=4;
        int y=7;
        public static void main(String[] args)
        {
//creating multiple object

                creatingObject car = new creatingObject();
                creatingObject bike = new creatingObject();
                creatingObject vehicle = new creatingObject();
                System.out.println(car.x);
                System.out.println(car.y);
                System.out.println(bike.x);
                System.out.println(bike.y);
```

```java
            System.out.println(vehicle.y);

        }
}
```

4
7
4
7
7

CREATING METHOD:

```java
package JAVA;

public class creatingMethods {
    public static void myMethod() {
        System.out.println("Hello Everyone");
    }

    public static void add() {
        int a=2;
        int b= 4;
        int c=a+b;
        System.out.println(c);
    }

    //non-static method

    public void stud() {
        String name ="Mary";
        int age = 23;
        int roll_no =101;
        System.out.println("Name: " + name + " " + "Age: " + age + " " +
"Roll_no: " + roll_no);
    }

    public static void main(String[] args) {
        myMethod();
        add();
        creatingMethods obj = new creatingMethods(); // non static method
can be called by creating object
        obj.stud();
    }

}
```

OUTPUT:

Hello Everyone
6
Name: Mary Age: 23 Roll_no: 101

CREATING MULTIPLE CLASSES:

```java
package JAVA;

public class creating2Object {

//creating multiple classes

        String name = "Rose";
        int num = 101;

}
```

```java
package JAVA;

public class creating3object {
    public static void main(String[] args)
    {
        creating2Object obj = new creating2Object();
        System.out.println(obj.num);
        System.out.println(obj.name);



    }
}
```

OUTPUT:

```
101
Rose
```

Write a java program to count occurrences of each element in an array?

```java
package JAVA;

import java.util.Scanner;

public class CountOccurrencePG {
    public static void main(String[] args)
    {
        int n,x,count = 0, i = 0;
        Scanner s = new Scanner(System.in);
        System.out.println("Enter no. of elements you want in array:");
        n = s.nextInt();
        int a[] = new int[n];
        System.out.println("Enter all the element:");
        for(i=0;i<n;i++)
        {
            a[i]  = s.nextInt();
        }
        System.out.println("Enter the element of which you want to count
number of occurrences:");
        x = s.nextInt();
        for(i=0;i<n;i++)
        {
            if(a[i] == x)
            {
                count++;
            }
```

```
			}
			System.out.println("Number of Occurrences of the element: " +
count);
		}
}
```

OUTPUT:

```
Enter no. of elements you want in array:
2
Enter all the element:
3 5
Enter the element of which you want to count number of occurrences:
4
Number of Occurrences of the element: 0
```

Write a java program to convert an array to ArrayList and an ArrayList to array

```
package JAVA;


import java.util.ArrayList;

import java.util.Arrays;

import java.util.List;


public class ConvertArrayToArraylistPG {

	public static void main(String[] args)

	{

		String[] array = {"Java","Python","C"};

		List al = Arrays.asList(array);

		System.out.println(al);

	}

}
```

OUTPUT:

```
[Java, Python, C]
```

BREAK & CONTINUE:

```
package JAVA;
```

```java
public class BreakContinue {
    public static void main(String[] args)
    {

//break

        System.out.println("---------------------------BREAK---------------
--------");
        for(int i=0; i<10; i++)
        {
            if(i==5)
                break;
            System.out.println(i);
        }

//Continue

        System.out.println("--------------------------CONTINUE------------
--------");
        for(int i=0; i<10; i++)
        {
            if(i==2)
                continue;
            System.out.println(i);
        }
    }
}
```

OUTPUT:

```
---------------------------BREAK------------------------
0
1
2
3
4
---------------------------CONTINUE--------------------
0
1
3
4
5
6
7
8
9
```

OPERATORS:

```java
package JAVA;

public class assignmentOperators {
    public static void main(String[] args) {

//ASSIGNMENT OPERATOR

        System.out.println("ASSIGNMENT OPERATOR");
        int a=5;
```

```java
            System.out.println(a);

            int b=5;
            b += 3; //b=b+3
            System.out.println(b);

            int c=5;
            c -= 3; //c=c-3
            System.out.println(c);

            int d=5;
            d *= 3; //d=d*3
            System.out.println(d);

            int e=5;
            e /= 3; //e=e/3
            System.out.println(e);

            int f=5;
            f %= 3; //f=f%3
            System.out.println(f);
            System.out.println("------------------------------------------------
-----------------------");


//BITWISE OPERATOR

            System.out.println("BITWISE OPERATOR");
            int g=5; //AND
            g &= 3; //g=g&3
            System.out.println(g);

            int h=5;   //OR
            h |= 3; //h=h|3
            System.out.println(h);

            int i=5; //XOR
            i ^= 3; //i=i^3
            System.out.println(i);

            int j=5;   //LEFT SHIFT
            j >>= 3; //j=j>>3
            System.out.println(j);

            int k=5;   //RIGHT SHIFT
            k <<= 3; //k=k<<3
            System.out.println(k);
            System.out.println("------------------------------------------------
-----------------------");

//COMPARISON OPERATORS

            System.out.println("COMPARISON OPERATOR");
            int l=5, m=3;   //Equal to
            System.out.println(l==m);

            int n=5, o=3;   //Not equal to
            System.out.println(n!=o);
```

```java
            int p=5, q=3;  //Greater than
            System.out.println(p>q);

            int r=5, s=3;  //Less than
            System.out.println(r<s);

            int t=5, u=3;  //Greater than equal to
            System.out.println(t>=u);

            int v=5, w=3;  //Lesser than equal to
            System.out.println(v<=w);
            System.out.println("-----------------------------------------------
-----------------------");

//UNARY OPERATOR

            System.out.println("UNARY OPERATOR");
            int x=6;
            System.out.println("post increment");
            System.out.println(x++); //post increment
            System.out.println(x);

            System.out.println("pre increment");
            System.out.println(++x); //pre increment
            System.out.println(x);

            int y=9;
            System.out.println("post decrement");
            System.out.println(y--); //post decrement
            System.out.println(y);

            System.out.println("pre decrement");
            System.out.println(--y); //pre decrement
            System.out.println(y);
        }
}
```

OUTPUT:

```
false
true
true
false
true
false
------------------------------------------------------------------------
UNARY OPERATOR
post increment
6
7
pre increment
8
8
post decrement
9
8
pre decrement
7
7
```

ARRAY:

```java
package JAVA;

public class Array {
    public static void main(String[] args)
    {
        int[] age = {1,3,6,9,2,5,80};
        System.out.println(age[2]);

        String[] name = {"Deepa","Femina","Rachel","Sasi","Bharathi"};
        System.out.println(name[4]);

        System.out.println(age.length);
        System.out.println(name.length);
    }
}
```

OUTPUT:

```
6
Bharathi
7
5
```

ADDITION:

```java
package JAVA;

public class Add {
    public static void main(String[] args)
    {
        int a=2, b=5;
        int c=a+b;
        System.out.println("The sum is"+ c);
    }
}
```

OUTPUT:

```
The sum is7
```

ABSTRACTION:

```java
package JAVA;

abstract class shape{
    abstract void draw();
}

class rectangle extends shape{
    void draw() {
        System.out.println("Drawing Rectangle");
        }
```

```java
        }

class circle extends shape{
        void draw() {
                System.out.println("Drawing circle");
        }
}
public class abstraction {
        public static void main(String[] args) {
                shape obj = new rectangle();
                shape ob = new circle();
                obj.draw();
                ob.draw();
        }

}
```

OUTPUT:

```
Drawing Rectangle
Drawing circle
```