Array Programs

Array :-

- Array is predefined class present in java .lang package.
- It is considered as a non-primitive datatype in java.
- Array is a continuous block of memory which is used to store multiple value or data.
- It is a collection of homogeneous elements.
- Array is fixed size in nature.
- Whenever we create an array object mentioning datatype or assigning datatype and passing size is mandatory.
- By Default in array object the default value of datatype is stored.
- To store or access an element from an array we need array reference variable and index.

Array reference variable :-

A variable which stores the address of an array object is known as Array reference variable.

Index:-

It is a positive integer number which starts with 0.

Note:-

To store multiple Values we need to create array object.

We can create array object in 2 ways:-

1)using new keyword

2) without using new keyword

Question

1)WAJP to store the elements in an array and access the element one by one.

```
/*
Note:- make use of scanner class to request the data from end user
*/
import java.util.Scanner;
class StoreAndAccessElemetInArray
{
	public static void main(String[] args)
	{
		Scanner s=new Scanner(System.in);
		System.out.println("enter the size of array");
		int size=s.nextInt();
		int [] arr=new int[size];
		System.out.println("The size of array is: " +arr.length);
		//Below for loop is used to Store an element in an array
		System.out.println("Enter the elements of an array");
		for(int i=0;i<arr.length;i++)
		{
			arr[i]=s.nextInt();
		}
		//Below for loop is used to access an element in an array
		System.out.println("The Result is: ");
		for(int i=0;i<arr.length;i++)
		{
			System.out.println(arr[i]);
		}
```

```
        }
}
```

2) WAJP to access the even elements from an array.

```
import java.util.Scanner;
class EvenElements
{
        public static void main(String [] args){
           Scanner s=new Scanner(System.in);
                System.out.println("enter the size of array");
                int size=s.nextInt();
                int [] arr=new int[size];
                System.out.println("The size of array is: " +arr.length);
                //Below for loop is used to Store an element in an array
                System.out.println("Enter the elements of an array");
                for(int i=0;i<arr.length;i++)
                {
                        arr[i]=s.nextInt();
                }
                //Below for loop is used to access an element in an array
                System.out.println("The Result is: ");
                for(int i=0;i<arr.length;i++)
                {
                        if(arr[i]%2==0)
                        {
                        System.out.println(arr[i]);
                }
```

```
        }
        }
}
```

3) WAJP to access the Odd elements from an array.

```
import java.util.Scanner;
class OddElements
{
        public static void main(String[]args)
        {
         Scanner s=new Scanner(System.in);
                System.out.println("enter the size of array");
                int size=s.nextInt();
                int [] arr=new int[size];
                System.out.println("The size of array is: " +arr.length);
                //Below for loop is used to Store an element in an array
                System.out.println("Enter the elements of an array");
                for(int i=0;i<arr.length;i++)
                {
                        arr[i]=s.nextInt();
                }
                //Below for loop is used to access an element in an array
                System.out.println("The Result is: ");
                for(int i=0;i<arr.length;i++)
                {
                        if(arr[i]%2!=0)
                        {
```

```
                System.out.println(arr[i]);
            }
        }
        }
}
```

4)WAJP to identify the sum of elements in present in an array.

```
import java.util.Scanner;
class SumOfelements
{
    public static void main(String[]args)
    {
    Scanner s=new Scanner(System.in);
        System.out.println("enter the size of array");
        int size=s.nextInt();
        int [] arr=new int[size];
        System.out.println("The size of array is: " +arr.length);
        //Below for loop is used to Store an element in an array
        System.out.println("Enter the elements of an array");
        for(int i=0;i<arr.length;i++)
        {
            arr[i]=s.nextInt();
        }
        System.out.println("The Result is: ");
        int sum=0;
        for(int i=0;i<arr.length;i++)
        {
```

```
                sum=sum+arr[i];
            }
            System.out.println("The Sum Of Elements is : "+sum);
        }
}
```

5)WAJP to identify the average of elements in an array.

```
import java.util.Scanner;
class AvgOfElements
{
    public static void main(String[]args)
    {
       Scanner s=new Scanner(System.in);
            System.out.println("enter the size of array");
            int size=s.nextInt();
            int [] arr=new int[size];
            System.out.println("The size of array is: " +arr.length);
            //Below for loop is used to Store an element in an array
            System.out.println("Enter the elements of an array");
            for(int i=0;i<arr.length;i++)
            {
                arr[i]=s.nextInt();
            }
            System.out.println("The Result is: ");
            int sum=0;
            for(int i=0;i<arr.length;i++)
            {
                sum=sum+arr[i];
```

```
                }
                System.out.println("The Avg Of Elements is : "+sum/arr.length);
        }
}
```

6)WAJP to identify the average of odd elements from an array

```
import java.util.Scanner;
class AvgOfOddElements
{
        public static void main(String[]args)
        {
           Scanner s=new Scanner(System.in);
                System.out.println("enter the size of array");
                int size=s.nextInt();
                int [] arr=new int[size];
                System.out.println("The size of array is: " +arr.length);
                //Below for loop is used to Store an element in an array
                System.out.println("Enter the elements of an array");
                for(int i=0;i<arr.length;i++)
                {
                        arr[i]=s.nextInt();
                }
                System.out.println("The Result is: ");
                int sum=0;
                int count=0;
                for(int i=0;i<arr.length;i++)
                {
                        if(arr[i]%2!=0)
```

```
                {
                        count++;
                sum=sum+arr[i];
                }
        }
        System.out.println("The Avg Of Odd Elements is : "+sum/count);
    }
}
```

7) WAJP to identify the sum of even elements and odd elements

```
import java.util.Scanner;
class SumOfEvenOdd
{
    public static void main(String [] args){
       Scanner s=new Scanner(System.in);
            System.out.println("enter the size of array");
            int size=s.nextInt();
            int [] arr=new int[size];
            System.out.println("The size of array is: " +arr.length);
            //Below for loop is used to Store an element in an array
            System.out.println("Enter the elements of an array");
            for(int i=0;i<arr.length;i++)
            {
                    arr[i]=s.nextInt();
            }
            System.out.println("The Result is: ");
            int sum=0;
            int sum2=0;
```

```
		for(int i=0;i<arr.length;i++)
		{
			if(arr[i]%2==0)
			{
				sum=sum+arr[i];
		}
		else if(arr[i]%2!=0)
			{
			sum2=sum2+arr[i];
			}
	}
	System.out.println("The Sum of Even element is: "+sum);
	System.out.println("The Sum of Odd element is: "+sum2);
	}
}
```

8)WAJP to print the elements which is present at even index.

```
import java.util.Scanner;
class ElementPresentEvenIndex
{
	public static void main(String[]args)
	{
	Scanner s=new Scanner(System.in);
		System.out.println("enter the size of array");
		int size=s.nextInt();
		int [] arr=new int[size];
		System.out.println("The size of array is: " +arr.length);
		System.out.println("Enter the elements of an array");
```

```
                for(int i=0;i<arr.length;i++)
                {
                        arr[i]=s.nextInt();
                }
                System.out.println("The Result is: ");
                for(int i=0;i<arr.length;i++)
                {
                        if(i%2==0)
                        {
                        System.out.println("The Elements Present at even index is : "+arr[i]);
                }
        }
}
}
```

9)WAJP to Print The elements which is divisible by 5 from an array

```
import java.util.Scanner;
class ElementDivisibleBy5
{
        public static void main(String [] args){
           Scanner s=new Scanner(System.in);
                System.out.println("enter the size of array");
                int size=s.nextInt();
                int [] arr=new int[size];
                System.out.println("The size of array is: " +arr.length);
                //Below for loop is used to Store an element in an array
                System.out.println("Enter the elements of an array");
                for(int i=0;i<arr.length;i++)
```

```
                {
                        arr[i]=s.nextInt();
                }
                System.out.println("The Result is: ");
                for(int i=0;i<arr.length;i++)
                {
                        if(arr[i]%5==0)
                        {
                        System.out.println("The Element which is divisble by 5 is: "+arr[i]);
                }
        }
        }
}
```

10)WAJP to search an element in an array.

```
import java.util.Scanner;
class SearchElement
{
        public static void main(String [] args){
           Scanner s=new Scanner(System.in);
                System.out.println("enter the size of array");
                int size=s.nextInt();
                int [] arr=new int[size];
                System.out.println("The size of array is: " +arr.length);
                //Below for loop is used to Store an element in an array
                System.out.println("Enter the elements of an array");
                for(int i=0;i<arr.length;i++)
                {
```

```
                arr[i]=s.nextInt();
            }
            System.out.println("Enter the element to be searched");
            int search=s.nextInt();
            int count=0;
            for(int i=0;i<arr.length;i++)
            {
            if(arr[i]==search)
                {
                count++;
            System.out.println("Element is Present");
            break;
                }
        }
        if(count==0)
            {
            System.out.println("Element is Not Present");
}
}
}
```

11)WAJP To identify the count /number of positive elements and number of negative elements

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

```
		System.out.println("enter the size of array");
		int size=s.nextInt();
		int [] arr=new int[size];
		System.out.println("The size of array is: " +arr.length);
		//Below for loop is used to Store an element in an array
		System.out.println("Enter the elements of an array");
		for(int i=0;i<arr.length;i++)
		{
			arr[i]=s.nextInt();
		}
		System.out.println("The Result is: ");
		int pos=0;
		int neg=0;
		for(int i=0;i<arr.length;i++)
		{
		if(arr[i]>=0)
		{
		pos++;
		}
		else{
			neg++;
	}
		}
	System.out.println("The count of Positive element is: "+pos);
	System.out.println("The count of negative element is: "+neg);
}
}
```

12)WAJP to Swap the 2 numbers

```
class Swap2Num
{
	public static void main(String[] args)
	{
		int a=10;
		int b=20;
		int temp=0;
		temp=a;
		a=b;
		b=temp;
		System.out.println("a: "+a+" "+" b: "+b);
	}
}
```

13) WAJP to Swap the 2 numbers without using 3rd variable.

```
class Swap2NumWithoutUsingThirdVariable
{
	public static void main(String[] args)
	{
		int a=10;
		int b=20;
		a=a+b;
		b=a-b;
		a=a-b;
		System.out.println("a: "+a+" "+"b: "+b);
	}
}
```

14)WAJP To reverse the given array

```
import java.util.Scanner;
class ReverseArray
{
	public static void main(String[]args)
	{
	   Scanner s=new Scanner(System.in);
		System.out.println("enter the size of array");
		int size=s.nextInt();
		int [] arr=new int[size];
		System.out.println("The size of array is: " +arr.length);
		//Below for loop is used to Store an element in an array
		System.out.println("Enter the elements of an array");
		for(int i=0;i<arr.length;i++)
		{
			arr[i]=s.nextInt();
		}
		System.out.println("The Result Of reverse Array is: ");
		for(int i=arr.length-1;i>=0;i--)
		{

			System.out.println(arr[i]);
		}
	}
	}
```

//WAJP to reverse array = way 2

```
import java.util.Scanner;
class ReverseArray2
{
	public static void main(String[]args)
	{
	   Scanner s=new Scanner(System.in);
		System.out.println("enter the size of array");
		int size=s.nextInt();
		int [] arr=new int[size];
		System.out.println("The size of array is: " +arr.length);
		//Below for loop is used to Store an element in an array
		System.out.println("Enter the elements in an array");
		for(int i=0;i<arr.length;i++)
		{
			arr[i]=s.nextInt();
		}
		System.out.println("The Result Of reverse Array is: ");
		//logic to reverse elements in array
		int start=0;
		int end=arr.length-1;
		while(start<end)
		{
			int temp=arr[start];
			arr[start]=arr[end];
			arr[end]=temp;
			start++;
			end--;
```

```
                }
                //We are accessing the element from an array
                for(int i=0;i<arr.length;i++)
                {
                System.out.println(arr[i]);
                }
        }
}
```

15)WAJP to check that given array is palindrome or not

```
import java.util.Scanner;
class ArrayPalindromeOrNot2
{
                public static void main(String[]args)
        {
           Scanner s=new Scanner(System.in);
                System.out.println("enter the size of array");
                int size=s.nextInt();
                int [] arr=new int[size];
                System.out.println("The size of array is: " +arr.length);
                //Below for loop is used to Store an element in an array
                System.out.println("Enter the elements in an array");
                for(int i=0;i<arr.length;i++)
                {
                        arr[i]=s.nextInt();
                }
                int [] rev=new int[size];
                System.out.println("The Result Of reverse Array is: ");
```

```
        //logic to reverse elements in array
        int t=arr.length-1;
        for(int i=0;i<arr.length;i++)
        {
                rev[t]=arr[i];
                t--;
        }
        boolean flag=true;
        for(int i=0;i<arr.length;i++)
        {

                if(arr[i]!=rev[i])
                {
                        flag=false;
                break;
        }
}
if(flag==true)
                {
                        System.out.println("Array is palindrome");
                }
                else
                {
                        System.out.println("Array is Not palindrome");
                }
}
}
```

16)WAJP to identify the smallest element in an array.

```
import java.util.Scanner;
class SmallestDigit
{
	public static void main(String[]args)
	{
	   Scanner s=new Scanner(System.in);
		System.out.println("enter the size of array");
		int size=s.nextInt();
		int [] arr=new int[size];
		System.out.println("The size of array is: " +arr.length);
		System.out.println("Enter the elements of an array");
		for(int i=0;i<arr.length;i++)
		{
			arr[i]=s.nextInt();
		}
		//Identifying the smallest element in Array
		int small=arr[0];
		for(int i=0;i<arr.length;i++)
		{
			if(small>arr[i])
			{
				small=arr[i];
		}
	}
	System.out.println("The smallest digit in array is: "+small);
}
}
```

17) WAJP to identify the Largest element in an array.

```
import java.util.Scanner;
class LargeElement
{
	public static void main(String[]args)
	{
	   Scanner s=new Scanner(System.in);
		System.out.println("enter the size of array");
		int size=s.nextInt();
		int [] arr=new int[size];
		System.out.println("The size of array is: " +arr.length);
		//Below for loop is used to Store an element in an array
		System.out.println("Enter the elements of an array");
		for(int i=0;i<arr.length;i++)
		{
			arr[i]=s.nextInt();
		}
		//Identifying the Largest element in Array
		int large=arr[0];
		for(int i=0;i<arr.length;i++)
		{
			if(large<arr[i])
			{
				large=arr[i];
		}
	}
	System.out.println("The largest digit in array is: "+large);
```

```
}
}
```

18)WAJP to identify the highest sum of 2 numbers in an array.

```
import java.util.Scanner;
class SumOf2HighestNumber
{
	public static void main(String[]args)
	{
	   Scanner s=new Scanner(System.in);
		System.out.println("enter the size of array");
		int size=s.nextInt();
		int [] arr=new int[size];
		System.out.println("The size of array is: " +arr.length);
		//Below for loop is used to Store an element in an array
		System.out.println("Enter the elements of an array");
		for(int i=0;i<arr.length;i++)
		{
			arr[i]=s.nextInt();
		}
		//Identifying the  element in Array
		int sum=0;
		for(int i=0;i<arr.length;i++)
		{
			for(int j=i+1;j<arr.length;j++)
			{
			if(sum<arr[i]+arr[j])
			{
```

```
                    sum=arr[i]+arr[j];
                }
            }
}
System.out.println("The Sum of 2 highest digit in array is: "+sum);
}
}
```

19)WAJP to find the pair of elements is equal to the given number//sum of 2 element is equal to the given number

```
import java.util.Scanner;
class PairOfElementEqualToGivenNum
{
    public static void main(String[]args)
    {
       Scanner s=new Scanner(System.in);
            System.out.println("enter the size of array");
            int size=s.nextInt();
            int [] arr=new int[size];
            System.out.println("The size of array is: " +arr.length);
            //Below for loop is used to Store an element in an array
            System.out.println("Enter the elements of an array");
            for(int i=0;i<arr.length;i++)
            {
                arr[i]=s.nextInt();
            }
            //logic for identifying pair of element is equal to given element
            System.out.println("Enter the element");
```

```
                int ele=s.nextInt();
                for(int i=0;i<arr.length;i++)
                {
                        for(int j=i+1;j<arr.length;j++)
                        {
                        if(arr[i]+arr[j]==ele)
                        {
                                System.out.println("The Pair are: "+arr[i]+" "+arr[j]);
                }
        }
}
}
}
```

20)WAJP to reverse the each element in an array

```
class ReverseEachEleArray
{
        public static void main(String[] args)
        {
                int []a={12,34,54,87,67};
                //storing this array inside another array object
                int []b=new int[a.length];
                System.out.println("Befor Reversing Each Ele");
                for(int i=0;i<a.length;i++)
                {
                System.out.println(a[i]);
           }
                System.out.println("After Reversing Each Ele");
```

```
		for(int i=0;i<a.length;i++)
			{
			int rev=0;
			while(a[i]!=0)
				{
				int rem=a[i]%10;
				rev=rev*10+rem;
				a[i]=a[i]/10;
				}
				b[i]=rev;
				System.out.println(b[i]);
			}
}
}
```

21)WAJP find out the second largest elements from an array.

```
class SecondLargestEle
{
	public static void main(String[] args)
	{
		int []arr={1,3,2,4,6,3};
		int large=arr[0];
		int secondLarge=arr[0];
		for(int i=0;i<arr.length;i++)
		{
			if(arr[i]>large)
			{
			large=arr[i];
```

```
                }
        }
        for(int i=0;i<arr.length;i++)
        {
                if(secondLarge<arr[i]&& arr[i]<large)
                {
                secondLarge=arr[i];
                }
        }
        System.out.println("1st Largest: "+large);
        System.out.println("2nd Largest: "+secondLarge);
    }
}
```

22)WAJP find out the second smallest element from an array

```
class SecondSmallestEle
{
    public static void main(String[] args)
    {
        int []arr={3,2,4,6,1,0,-2};
        int small=arr[0];
        int secondSmall=arr[0];
        for(int i=0;i<arr.length;i++)
        {
                if(arr[i]<small)
                {
                small=arr[i];
                }
```

```
                }
                for(int i=0;i<arr.length;i++)
                {
                        if(secondSmall>arr[i]&& arr[i]>small)
                        {
                        secondSmall=arr[i];
                        }
                }
                System.out.println("1st Smallest: "+small);
                System.out.println("2nd Smallest: "+secondSmall);
        }
}
```

23)WAJP Remove the duplicates from an array

```
class  RemoveDuplicate
{
        public static void main(String[] args)
        {
                int arr[]={1,2,3,1,4,3,5,6};
                for (int i=0;i<arr.length;i++ )
                {
                   for (int j=i+1;j<arr.length ;j++ )
                   {
                                if(arr[i]==arr[j])
                            {
                                 arr[j]=-1;
                             }
                   }
```

```
                if (arr[i]!=-1)
                {
                  System.out.println(arr[i]);
                }
            }
        }
}
```

24)WAJP to print the duplicate elements.

```
class PrintDuplicate
{
        public static void main(String[] args)
        {
            int arr[]={1,2,3,1,4,3,5,6,4};
            for (int i=0;i<arr.length;i++ )
            {
                int count=0;
              for (int j=i+1;j<arr.length ;j++ )
              {
                        if(arr[i]==arr[j])
                  {
                     arr[j]=-1;
                     count++;
                   }
              }
                if (arr[i]!=-1  && count>0)
                {
                   System.out.println(arr[i]);
```

```
                }
            }
        }
}
```

25)WAJP to print the frequency of each elements

```
class PrintFrequency
{
    public static void main(String[] args)
    {
        int arr[]={1,2,3,1,1,4,5,8,4,3,5,6,6,3};
        for (int i=0;i<arr.length;i++ )
        {
            int count=0;
          for (int j=i+1;j<arr.length ;j++ )
          {
                if(arr[i]==arr[j])
              {
                    arr[j]=-1;
                    count++;
               }
          }
            if (arr[i]!=-1)
            {
              System.out.println(arr[i] + " frequency is " + count);
             }
        }
    }
```

```
}
```

26)WAJP to print frequency of duplicate elements

```
class FrequencyDuplicate
{
	public static void main(String[] args)
	{
		int arr[]={1,2,3,1,4,5,8,4,3,5,6,3};
		for (int i=0;i<arr.length;i++ )
		{
			int count=1;
		   for (int j=i+1;j<arr.length ;j++ )
		   {
				if(arr[i]==arr[j])
			   {
				arr[j]=-1;
				count++;
			    }
		   }
			if (count>1 && arr[i]!=-1)
			{
		    System.out.println("duplicate no of :"+ arr[i] + " frequency is " + count);
			 }
		}
	}
}
```

27)WAJP to merge 2 array

```
class MergeArray {
    public static void main(String[] args) {
        int arr[] = {1, 2, 3, 4};
        int b[] = {8, 9};
        int c[] = new int[arr.length + b.length];
        int j = 0;

        for (int i = 0; i < c.length; i++)
                        {
           if (i < arr.length)
                                {
              c[i] = arr[i];
           }
                        else
                                {
              c[i] = b[j];
              j++;
           }
        }
        for (int i = 0; i < c.length; i++) {
           System.out.print(c[i]);
        }
    }
}
```

28)WAJP to insert an element in a specified position

```
import java.util.Scanner;
class  InsertEle
{
	public static void main(String[] args)
	{
		Scanner sc= new Scanner(System.in);
		System.out.println("Enter the size of an array");
		int size=sc.nextInt();

		int arr[]= new int[size+1];

		System.out.println("Enter the element in an array");
		for (int i=0;i<size ;i++ )
		{
			arr[i]=sc.nextInt();
		}
	System.out.println("Enter the position");
		int pos=sc.nextInt();
		System.out.println("Enter the element you want to insert it in to an array");
		int user=sc.nextInt();

		 if (pos<0 || pos>arr.length-1)
	{
			System.out.println("invalid position");
	}
		 else
		{
```

```
                for (int i=arr.length-1;i>pos-1 ;i-- )
            {
                arr[i]=arr[i-1];
              }
              arr[pos-1]=user;

              for (int i=0;i<arr.length ;i++ )
             {
                System.out.println("the elements are after inserting new no."+ arr[i]);
              }
            }
        }
}
```

29)WAJP to insert an element in a specified position without losing the data

```
import java.util.Scanner;
class  InsertWithoutLoosing
{
        public static void main(String[] args)
        {
                Scanner sc= new Scanner(System.in);
                System.out.println("Enter the size of an array");
                int size=sc.nextInt();

                int arr[]= new int[size];
                int b[]=new int[size+1];

                System.out.println("Enter the element in an array");
```

```
        for (int i=0;i<arr.length ;i++ )
        {
                arr[i]=sc.nextInt();
        }

System.out.println("Enter the position");
        int pos=sc.nextInt();

        System.out.println("Enter the element you want to insert it in to an array");
        int user=sc.nextInt();

         if (pos<0 || pos>arr.length)
{
                System.out.println("invalid position");
}
         else
        {
                for (int i=arr.length-1;i>=pos-1 ;i-- )
        {
                        b[i+1]=arr[i];
           }
           b[pos-1]=user;

           for (int i=0;i<pos-1 ;i++ )
           {
                        b[i]=arr[i];
           }
                System.out.println("the elements are after inserting new no.");
```

```
                for (int i=0;i<b.length ;i++ )
                {
                        System.out.println( b[i]);
                }
        }
    }
}
```

30)WAJP to remove the elements from a specified position

```
import java.util.Scanner;
class RemoveElement
{
        public static void main(String[] args)
        {
                Scanner s=new Scanner(System.in);
                System.out.println("Enter the size");
                int size=s.nextInt();
                int[] arr=new int[size];
                System.out.println("Enter the Elements");
                for(int i=0;i<arr.length;i++)
                {
                        arr[i]=s.nextInt();
                }
                System.out.println("Enter the position");
                int pos=s.nextInt();
                if(pos<0 || pos>arr.length-1){
                        System.out.println("Invalid Position");
                }
```

```
                else{
                        for(int i=pos-1;i<arr.length-1;i++)
                        {
                                arr[i]=arr[i+1];
                        }
                }
        System.out.println("The Result is:");
        for(int i=0;i<arr.length-1;i++)
                {
                System.out.println(arr[i]);
                }
        }
}
```

31)WAJP to print the prime elements from an array

```
class PrimeEleFromArray
{
        public static void main(String[]args)
        {
                int [] arr={3,4,7,13,21,31};
                for(int i=0;i<arr.length;i++)
                {
                        int count=0;
                        for(int j=1;j<=arr[i]/2;j++)
                        {
                                if(arr[i]%j==0)
                                {
                                        count++;
```

```
                        }
                        if(count>1)
                        {
                                break;
                        }
                }
                if(count==1)
                {
                        System.out.println(arr[i]+" is Prime Number");
                }
        }
}
}
```

32)WAJP to print the elements in zigzag

```
/* {1,2,3,4,5}
  {6,7,8,9,10}
  output is={1,6,2,7,3,8,4,9,5,10}
  */
class ZigZagArray
{
        public static void main(String[] args)
        {
                int a[]={1,2,3,4,5};
                int b[]={6,7,8,9,10};
           int[] c = new int[a.length + b.length];//8 blocks created
           int i=0;//for c
                int x=0;//for a
```

```
		int y=0;//for b


		while(i<c.length)
		{
			if(x<a.length)
			{
				c[i++]=a[x++];
			}
			if(y<b.length)
			{
				c[i++]=b[y++];
		}
		}
		for(int j=0;j<c.length;j++)
		{
		  System.out.print(c[j]+" ");
	}
	}
}
```

33)WAJP to identify the missing element in an array

```
class MissingElement
{
	public static void main(String[] args)
	{
		int [] arr={1,2,3,4,5,7};
		int ele=1;
		for(int i=0;i<arr.length;i++)
```

```
		{
			if(ele==arr[i])
			{
				ele++;
			}
			else{
				break;
			}
		}
		System.out.println("The missing element is: "+ele);
	}
}
```

34)WAJP to check one array is subset of another array or WAJP to check one array is present inside another array

```
public class SubsetArray {
	public static void main(String[] args) {
		int a[] = {10,20,30,40,40,50,60,70,80};
		int b[] = {10,20,30,40,40};
		int count = 0;
		for(int i=0; i<b.length; i++) {
			for(int j=0; j<a.length ; j++) {
				if(b[i] == a[j] ) {
					count ++;
					a[j] = -1;
					break;
				}
			}
```

```
                }
                if(count==b.length) {
                        System.out.println("Array b is Subset of Array a.");
                }
                else {
                        System.out.println("Array b is not  Subset of Array a.");
                }
        }
}
```

35)WAJP to swap the 1st half the array with the 2nd half of the array

```
class SwapFirstHalfWithSecondHalf
{
        public static void main(String[] args)
        {
                int[] arr={10,20,30,40,50,60};
                int mid=0;
         if(arr.length%2==0)
                {
                mid=arr.length/2;
                }
                else{
                        mid=arr.length/2+1;
                }
                for(int i=0;i<arr.length/2;i++)
                {
                        int temp=arr[i];
                        arr[i]=arr[mid];
```

```
                arr[mid]=temp;
                mid++;
            }
            for(int i=0;i<arr.length;i++)
            {
            System.out.print(" "+arr[i]);
}
}
}
```

36) Sorting the element using bubble sort

```
import java.util.*;
class BubbleSort2
{
    public static void main(String[] args)
    {
        int []arr={5,3,0,2,1,7,32,21};
        for(int i=0;i<arr.length;i++)
        {
        //boolean flag=false;
        for(int j=1;j<arr.length-i;j++)
            {
            if(arr[j-1]>arr[j])
                {
                int temp=0;
                temp=arr[j-1];
                arr[j-1]=arr[j];
                arr[j]=temp;
```

```
                        //flag=true;
                        }
                }
                /*if(flag==false)
                {
                        break;
                }
                */
        }
        System.out.println(Arrays.toString(arr));
    }
}
```