```java
/*1. program to take input of two integer arrays from the user and to find the
sum of both the arrays.
Sort the elements of the resultant array in ascending order using selection
sort.

*/

import java.io.*;
import java.util.Scanner;

public class SumArraySort
{
    public void sort(int[] sum)
    {
        int n=sum.length;
        for(int i=0; i<n-1; i++)
        {
            int min=i;
            for(int j=i+1; j<n; j++)
            {
                if(sum[j]<sum[min])
                {
                    min=j;
                }
                int temp=sum[min];
                sum[min]=sum[i];
                sum[i]=temp;
            }
        }
    }

    void printArray(int sum[])
    {
        int n=sum.length;
        for(int i=0; i<n; ++i)
        {
            System.out.print(sum[i]+" ");
        }
        System.out.println();
    }

    public static void main(String[] args)
    {
        int i;
        System.out.print("Enter the size of array");
        Scanner sc =new Scanner(System.in);
        int size=sc.nextInt();
        int[] arr1=new int[size];
        int[] arr2=new int[size];
        int[] sum=new int[size];
        System.out.println("Enter the array one elements:");
        for(i=0; i<size; i++)
        {
```

```java
                arr1[i]=sc.nextInt();
        }
        System.out.println("Enter the array two elements");
        for(i=0; i<size; i++)
        {
                arr2[i]=sc.nextInt();
        }
        for(i=0; i<size; i++)
        {
                sum[i]= arr1[i]+arr2[i];
        }
        System.out.println("The sum of arrays one and two is:");
        for(i=0; i<size; i++)
        {
                System.out.print(sum[i]+ " ");
         }
            System.out.println("");

            //printing sorted sum array

        SumArraySort ob=new SumArraySort();
        ob.sort(sum);
        System.out.println("Sorted Array");
        ob.printArray(sum);
    }
}
```

```
Enter the size of array8
Enter the array one elements:
1
2
3
4
5
6
7
8
Enter the array two elements
1
2
3
4
5
6
11
22
The sum of arrays one and two is:
2 4 6 8 10 12 18 30
Sorted Array
2 4 6 8 10 12 18 30
```

```java
/*
2.program to take input of Two arrays and store the similar elements into the
resultant array.
 sort the resultant array in ascending order using bubble sort.
NOTE: there must at least be 6 similar elements.
similar elements= the elements occurring in both the arrays.*/




import java.util.Scanner;


class Duplicate_BubbleSort
{
      public static void bubbleSort(int arr[], int len)
      {
            int temp;
            for (int i = 0; i < len-1; i++)
                  for (int j = 0; j < len-i-1; j++)
                  {
                        if (arr[j] > arr[j+1])
                        {

                              temp = arr[j];
                              arr[j] = arr[j+1];
                              arr[j+1] = temp;
                        }

                  }
      }

      public static void main(String[] args)
      {
            Scanner sc=new Scanner(System.in);

            int arr1[]=new int[8];
            int arr2[]=new int[8];
            int arr3[]=new int[8];
            int count=0;
            System.out.println("enter the first 8 array elements");
            for(int i=0;i<8;i++)
            {
                  arr1[i]=sc.nextInt();
            }
            System.out.println("enter the Second 8 array elements");
            for(int i=0;i<8;i++)
            {
```

```java
                        arr2[i]=sc.nextInt();
                }

                for(int x=0;x<8;x++)
                {
                        for(int y=0;y<8;y++)
                        {
                                if(arr1[x]==arr2[y])
                                {
                                        arr3[count]=arr2[y];
                                        count++;
                                }
                        }
                }
                bubbleSort(arr3,count);
                System.out.println("3rd array elements are");
                for(int k=0;k<count;k++)
                {
                        System.out.print(arr3[k]+",");
                }
        }
}
```

```
enter the first 8 array elements
1
2
3
4
5
6
7
8
enter the Second 8 array elements
1
2
3
4
5
6
11
22
3rd array elements are
1,2,3,4,5,6,
```

```java
/*3.program to take input two arrays and store the dissimilar elements into a
resultant array.
sort the resultant array in a descending order using bubble sort.
dissimilar elements= the elements not occurring in both the arrays.(unique
elements)
*/


import java.util.*;

public class Sort1 {
        public static void main(String[] args)

        {

                System.out.println("Enter the array size:");

                Scanner sc = new Scanner(System.in);

                int size = sc.nextInt();

                System.out.println("Enter the array 1 elements:");

                int[] arr1 = new int[size];

                for (int i = 0; i < size; i++)

                {

                        arr1[i] = sc.nextInt();

                }

                System.out.println("Enter the array 2 elements:");

                int[] arr2 = new int[size];

                for (int i = 0; i < size; i++)

                {

                        arr2[i] = sc.nextInt();

                }

                System.out.println("Disimilar elements :");

                ArrayList<Integer> arr3 = new ArrayList<Integer>();

                int flag = 0;

                for (int i = 0; i < size; i++)

                {
```

```java
        for (int j = 0; j < size; j++)

        {

                if (arr1[i] == arr2[j])

                        flag = 1;

        }

        if (flag == 0)

        {

                arr3.add(arr1[i]);

        }

        flag = 0;

}

for (int i = 0; i < size; i++)

{

        for (int j = 0; j < size; j++)

        {

                if (arr2[i] == arr1[j])

                        flag = 1;

        }

        if (flag == 0)

        {

                arr3.add(arr2[i]);

        }

        flag = 0;

}

System.out.println(arr3);

int len = arr3.size();

Integer[] arr4 = new Integer[len];
```

```java
arr4 = arr3.toArray(arr4);

for (int i = 0; i < len; i++)

{

    for (int j = 0; j < len - 1 - i; j++)

    {

        if (arr4[j + 1] > arr4[j])

        {

            int temp = arr4[j + 1];

            arr4[j + 1] = arr4[j];

            arr4[j] = temp;

        }

    }

}

System.out.println("after bubble sort is:");

for (int i = 0; i < len; i++)

{

    System.out.println(arr4[i]);

}

    }
}
```

```
Enter the array size:
8
Enter the array 1 elements:
1
2
3
4
5
6
7
8
Enter the array 2 elements:
1
2
3
11
22
33
44
55
Disimilar elements :
[4, 5, 6, 7, 8, 11, 22, 33, 44, 55]
after bubble sort is:
55
44
33
22
11
8
7
6
5
4
```

```java
/*

4. Implement Array List and add, remove, elements in the Array List and
perform sorting of the elements using the iterator.

*/




import java.util.ArrayList;
import java.util.Collections;
import java.util.Iterator;

public class ArrayListIterator {
	public static void main(String[] args)
	{
		ArrayList<String>list=new ArrayList<String>();
		list.add("Volkswagen");
		list.add("Toyota");
		list.add("Audi");
		list.add("Mercedez");
		list.add("BMW");
		list.add("Hyundai");
		System.out.println("The elements in ArrayLists are: "+list);
		list.remove(5);
		System.out.println("The contents of list after removing the
element at 5th position is: "+list);


		Iterator<String> it = list.iterator();


		   while(it.hasNext()) {
		      System.out.println(it.next());
		   }
		   Collections.sort(list);
		   System.out.println(list);
		 }
	}
```

```
The elements in ArrayLists are: [Volkswagen, Toyota, Audi, Mercedez, BMW, Hyundai]
The contents of list after removing the element at 5th position is: [Volkswagen, Toyota, Audi, Mercedez, BMW]
Volkswagen
Toyota
Audi
Mercedez
BMW
[Audi, BMW, Mercedez, Toyota, Volkswagen]
|
```

```
/*
5. Implement LinkedList and add, remove, elements in the LinkedList
and perform sorting of the elements using the iterator.
*/




import java.util.Collections;
import java.util.Iterator;
import java.util.LinkedList;

public class LinkedListEx {
       public static void main(String[] args)
       {
               LinkedList<String>list=new LinkedList<String>();
               list.add("Red");
               list.add("Italy");
               list.add("Blue");
               list.add("London");
               list.add("Paris");
               System.out.println("Linkedlist: "+list);
               list.remove(2);
               System.out.println("Linkedlist after deletion: "+list);


                Iterator<String> it = list.iterator();


                  while(it.hasNext()) {
                      System.out.println(it.next());
                    }
                  Collections.sort(list);
                  System.out.println(list);
       }

}
```

Linkedlist: [Red, Italy, Blue, London, Paris]
Linkedlist after deletion: [Red, Italy, London, Paris]
Red
Italy
London
Paris
[Italy, London, Paris, Red]