```java
import java.util.*;

public class Number_methods {

    public static void main(String[] args) {
        int[] intArray = { 1, 2, 3, 4, 5 };
        int sum=0;
        for(int i=0;i<intArray.length;i++) {
            System.out.println(intArray[i]);
            sum=sum+intArray[i];
        }
        System.out.println("Sum = "+sum);
    }

}

import java.util.Scanner;
/*
10 40 5 80 13  //10>5
5  40 10 80 13
5 10 40 80 13
5  10 13 40 80 */
public class Sorting_Array {

    public static void main(String[] args) {
        Scanner scan=new Scanner(System.in);
        String n=scan.nextLine();
```

```java
        //scan.nextLine();
        String arr=scan.nextLine();
        String a[]=arr.split(" ");
        String brr=scan.nextLine();
        String b[]=brr.split(" ");
        for(String b1:b)
            System.out.print(b1+" ");
        System.out.println();
        for(String a1:a)
            System.out.print(a1+" ");
    }
}




//34 12 8 40 54
//12 34 8 40 54
//8 34 12 40 54
//8 12 34 40 54

import java.util.*;
public class Number_method {

    public static void main(String[] args) {
        Scanner s = new Scanner(System.in);
        //System.out.print("Enter the number: ");
```

```java
        //int n = s.nextInt();
        int t,n=5;
        String arr=s.nextLine();
        String[] array=arr.split(" ");
        int a[]=new int[array.length];
        for(int i=0;i<array.length;i++)
            a[i]=Integer.valueOf(array[i]);
        for(int i=0;i<n-1;i++) {
            for(int j=i+1;j<n;j++) {
                if(a[i]>a[j]) {
                    t=a[i];
                    a[i]=a[j];
                    a[j]=t;
                }
            }
        }
        System.out.println("Sorted elements
are:");
        for(int i=0;i<n;i++)
            System.out.print(a[i]+" ");
    }
}
```

Java Program to Find the Number of Elements in an Array

This is a Java Program to Find the Number of Elements in an Array.

An array consisting of any number of elements is given. Now we take a variable and each time we encounter the next element of array it gets incremented. Hence we get the variable value as length of array. Also we can use inbuilt method length to find array length.

Here is the source code of the Java Program to Find the Number of Elements in an Array. The Java program is successfully compiled and run on a Windows system. The program output is also shown below.

```java
1. public class Length
2. {
3.     public static void main(String[] args)
4.     {
5.         int a[] = {1,2,3,4,5};
6.         int count = 0, i = 0, n;
7.         try
8.         {
9.             while(a[i] != 'a')
```

```java
10.                 {
11.                     count++;
12.                     i++;
13.                 }
14.             }
15.         catch(Exception e)
16.         {
17.             System.out.println("Number of elements in array:"+count);
18.         }
19.         n = a.length;
20.         System.out.println("Number of elements(Using inbuilt method named length):"+n);
21.     }
22.}
```

Output:

```
$ javac Length.java
$ java Length
Number of elements in array:5
```

```
Number of elements(Using inbuilt
method named length):5
```

Java Program to Find Largest Element in an Array

This is a Java Program to Find the Largest Number in an Array.

Enter the elements of array as input. By comparing elements of array with each other we get the largest number of the array.

Here is the source code of the Java Program to Find the Largest Number in an Array. The Java program is successfully compiled and run on a Windows system. The program output is also shown below.

```
Enter number of elements in the
array:5
Enter elements of array:
4
2
3
```

```
6
1
Maximum value:6
```

```java
1. import java.util.Scanner;
2. public class Largest_Number
3. {
4.     public static void main(String[] args)
5.     {
6.         int n, max;
7.         Scanner s = new Scanner(System.in);
8.         System.out.print("Enter number of elements in the array:");
9.         n = s.nextInt();
10.        int a[] = new int[n];
11.        System.out.println("Enter elements of array:");
12.        for(int i = 0; i < n; i++)
13.        {
```

```java
14.            a[i] = s.nextInt();
15.          }
16.        max = a[0];
17.        for(int i = 0; i < n; i++)
18.        {
19.            if(max < a[i])
20.            {
21.                max = a[i];
22.            }
23.        }
24.
System.out.println("Maximum value:"+max);
25.     }
26.}
```

Output:

```
$ javac Largest_Number.java
$ java Largest_Number

Enter number of elements in the array:5
Enter elements of array:
```

```
4
2
3
6
1
Maximum value:6
```

Java Program to Find the Second Largest and Smallest Elements in an Array

This is a Java Program to Find the Second Largest & Smallest Elements in an Array.

Enter size of array and then enter all the elements of that array. Now with the help of for loop and temp variable we sort the array in ascending order. Hence we get the first and second last element as output.

Here is the source code of the Java Program to Find the Second Largest & Smallest Elements in an Array. The Java program is successfully compiled and run on a Windows system. The program output is also shown below.

```
1. import java.util.Scanner;
```

```java
public class SecondLargest_Smallest
{
    public static void main(String[] args)
    {
        int n, temp;
        Scanner s = new Scanner(System.in);
        System.out.print("Enter no. of elements you want in array(Minimum 2):");
        n = s.nextInt();
        int a[] = new int[n];
        System.out.println("Enter all the elements:");
        for (int i = 0; i < n; i++)
        {
            a[i] = s.nextInt();
        }
        for (int i = 0; i < n; i++)
```

```java
17.            {
18.                for (int j = i + 1; j < n; j++)
19.                {
20.                    if (a[i] > a[j])
21.                    {
22.                        temp = a[i];
23.                        a[i] = a[j];
24.                        a[j] = temp;
25.                    }
26.                }
27.            }
28.    System.out.println("Second Largest:"+a[n-2]);
29.    System.out.println("Smallest:"+a[0]);
30.    }
31.}
```

Output:

```
$ javac SecondLargest_Smallest.java
$ java SecondLargest_Smallest
```

```
Enter no. of elements you want in
array(Minimum 2):8
Enter all the elements:
2
5
1
7
8
6
9
3
Second Largest:8
Smallest:1
```

Java Program to Find Local Maxima in an Array

This is the Java Program to Find Local Maximas in an Array.

Problem Description
Given an array of integers, find out the local maxima present in the array.
An element in an array is a local maxima if it

greater than the element after it, and the element before it.
For the elements at the extreme end only one check is required, that is, the element following the first element or the element before the last element.
In case of two or more maxima, only one of them is returned.

Example:
Array = [1, 2, 3, 4, 5, -1]

Output:
5

3)Compute Sum and Average of Array Elements

```java
import java.util.Scanner;
public class Thirdpgm {
    public static void main(String[] args) {
            Scanner s=new Scanner(System.in);
            System.out.print("Enter the number of elements: ");
            int n=s.nextInt();
        int numbers[]=new int[n];
        int sum = 0;
        float average;
```

```java
        System.out.println("Enter the elements one by one:");
        for(int i=0;i<n;i++) {
            numbers[i]=s.nextInt();
        }
        for (int number: numbers) {
          sum += number;
        }
        int arrayLength = numbers.length;
        average =  ((float)sum / (float)arrayLength);

        System.out.println("Sum = " + sum);
        System.out.println("Average = " + average);
        s.close();
      }
}
```

Input:
Enter the number of elements: 5
Enter the elements one by one:
1
2
3
4
5
Output:
Sum = 15

Average = 3.0

Input:
Enter the number of elements: 3
Enter the elements one by one:
12
4
6
Output:
Sum = 22
Average = 7.3333335

Input:
Enter the number of elements: 3
Enter the elements one by one:
12
45
89
OUTPUT
Sum = 146
Average = 48.666668

Java Program to Multiply given Number by 4 using Bitwise Operators

```java
import java.util.Scanner;
public class Multiply_Bitwise
```

```java
{
    public static void main(String[]
args)
    {
        int n;
            Scanner  s  =  new
Scanner(System.in);
        System.out.print("Enter the
number:");
        n = s.nextInt();
        int mul = n << 2;

System.out.println("Answer:"+mul);
    } }
```

Output:
Enter the number:2
Answer:8

/* Topic - Train seats(Swaps)

Question Text:
5 members are planning to go to vaccation on summer season. So they reserved the train tickets for

vaccation. During the journey time on train other 5 peoples occupied them reserved tickets. They convey the issues to TTR. He saying dont be occupied them 5 seats. so you all pleased to take your seats in-front of them opposite without changing your order.
Use the scanner class for getting the input from the user.

Input constraint:
$1<=N<=10$^n

Input format:

Input 1 : First line is consider as the size of an array
Notes: 2nd and 3rd lines considered as the array of elements
Input 2 : Give an integer array from command line.
Input 3 : Give an another integer array from command line.

Output : array1 : {5,6,0,8,4,3} and array2 : {1,2,4,5,3,7}

Sample Input:
5
1 2 3 4 5

6 7 8 9 10

Sample Output:
6 7 8 9 10
1 2 3 4 5
 */

/*Input 1:
3
10 20 30
40 50 60

Output 1:
40 50 60
10 20 30

Input 2:
7
50 60 70 -80 90 100 80
-1 -2 -3 50 60 70 80

Output 2:
-1 -2 -3 50 60 70 80
50 60 70 -80 90 100 80

Input 3:

```
4
-1 -2 -3 -4
-5 -6 -7 -8

Output 3:
-5 -6 -7 -8
-1 -2 -3 -4

Input 4:
2
100 200
300 400

Output 4:
300 400
100 200

Input 5:
1
1
8
Output 5:
8
1
*/
```

```java
import java.util.Scanner;

public class Array_swapping {
    public static void main(String[] args) {
        Scanner input_size = new Scanner(System.in);
        //System.out.println("Enter the Size of Arrays : ");
        int size = input_size.nextInt();
        int[] array1 = new int[size], array2 = new int[size], buffer = new int[size];
        Scanner sc = new Scanner(System.in);
        //System.out.println("Enter the First Array of Elements: ");
        for (int i = 0; i < size; i++) {
            array1[i] = sc.nextInt();
        }
        //System.out.println("Enter the Second Array of Elements: ");
        for (int i = 0; i < size; i++) {
            array2[i] = sc.nextInt();
        }
        /*System.out.println("Before Swapping");
        System.out.println("First Array: ");
        for (int i = 0; i < size; i++) {
            System.out.print(array1[i]);
        }
```

```java
        System.out.println("\nSecond Array: ");
        for (int i = 0; i < size; i++) {
            System.out.print(array2[i]);
        }*/
        for (int i = 0; i < size; i++) {
            buffer[i] = array1[i];
            array1[i] = array2[i];
            array2[i] = buffer[i];
        }
        //System.out.println("Arrays after Swapping");
        //System.out.println("First Array: ");
        for (int i = 0; i < size; i++) {
            System.out.print(array1[i]+ " ");
        }
        System.out.println();
        for (int i = 0; i < size; i++) {
            System.out.print(array2[i]+" ");
        }
    }
}
```