// Author :- Mohit Gaikwad
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//Q1. Write a program to print elements of Array ?

```
/*
import java.util.*;
public class num {
    public static void main(String args[])
    {
        Scanner sc =new Scanner (System.in);

        int n=sc.nextInt();

         for(int i=1; i<n; i++){

              System.out.printf("%d",i);

              for(int j= 1 ; j<i;j++){

               System.out.println(" ");

              }
              System.out.println();


         }


    }

}*/
```

//Q2.Write a Java program to check the equality of two arrays?

```
/*
package com.assign.practice_7;


import java.util.*;
public class Equalitychk {

 int a[];

 public static void  ArrayScan(int a[]) {
  Scanner sc =  new Scanner(System.in);
  System.out.println("Enter Your Array : ");
  for(int i=0; i<a.length; i++)
   a[i]=sc.nextInt();
```

```
 }

 public static void Equalchk(int a1[], int a2[]) {
  int flag = 0;
  for(int i=0; i<a1.length; i++) {
    if(a1[i] != a2[i]) {
    flag=1;
    break;
   }

   }


  if(flag == 1) {
   System.out.println("Both Array are different");
  }
  else
  {
   System.out.println("They are same");
  }  }


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

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

        int Size= sc.nextInt();
        Equalitychk obj1 = new Equalitychk();
        int[] a1 = new int[Size];
        int[] a2 = new int[Size];
        obj1.ArrayScan(a1);
        obj1.ArrayScan(a2);
        obj1.Equalchk(a1,a2);

 }
}
  */
```

// 3) Write a Java program to find all pairs of elements in an integer array whose sum is equal to a given number?

```
package com.assign.practice_7;


import java.util.*;

public class EqualSum {
 int a[];
```

```
public static void ScanArry(int a[]) {

 Scanner sc =  new Scanner(System.in);
  System.out.println("Enter the array:");
  for(int i=0;i<a.length;i++) {
    a[i]=sc.nextInt();
  }

}

public static void chksum(int a1[],int a2[]) {
 Scanner sc =  new Scanner(System.in);
 System.out.println("enter the sum you to find:");
             int sum = sc.nextInt();
             int flag=0;

        for(int i=0;i<a1.length;i++) {
         for(int j=0;j<a1.length;j++) {

         if(a1[i]+a2[j]==sum) {
          flag++;
          System.out.println("this pair has eual sum"+a1[i]+" + "+a2[j]+" = "+sum);
         }


         }
        }

        if(flag !=0) {
         System.out.println(flag+"Pairs has equal sum");}
         else if(flag == 0) {

          System.out.println("no pair found has equal sum");

         }
        }



public static void main(String[] args) {

 Scanner sc = new Scanner(System.in);
 System.out.println("Enter the size of array:");
 int Size=sc.nextInt();
 EqualSum inst1 = new EqualSum();
 int a1[]=new int[Size];
 int a2[]=new int[Size];

    inst1.ScanArry(a1);
    inst1.ScanArry(a2);
    inst1.chksum(a1, a2);


}
```

```
}
```

```
//4)  Write a program to reverse an Array in java .

/*

package com.assign.practice_7;

import java.util.*;
public class RevrseArray {
          int a[];
         static  int Size;



           public static void ScanArray(int a1[]) {
            Scanner sc = new Scanner(System.in);
            System.out.println("Enter the array you want to reverse: ");
            for(int i=0; i<a1.length; i++ ) {
             a1[i]=sc.nextInt();
            }}

           public static void ReverseArry(int a1[],int a2[]) {
              //copying array into another then i will reverse it
            for(int i=0; i<a1.length; i++) {
             a2[i]=a1[i];
            }

            //priting copied array

                for(int i=0; i<a1.length; i++) {
                 System.out.printf("%d ",a2[i]);
                }
            //now reversing it
                System.out.printf("Reversed Array ");
                for(int i=0; i<a1.length;i++) {

                  a1[i]=a2[Size-1-i];
                  System.out.printf("%d ",a1[i]);
             }




           }
 public static void main(String[] args) {
         Scanner sc = new Scanner(System.in);
         RevrseArray inst1 = new RevrseArray();
          System.out.println("Enter the size of array: ");
          Size=sc.nextInt();
          int[] a1 = new int[Size];
```

```
        int[] a2 = new int[Size];
        inst1.ScanArray(a1);
        inst1.ReverseArry(a1, a2);

 }

}
 */
```

//5) Find out smallest and largest number in a given Array?

```
/*



import java.util.Scanner;

class FindMaxMin {

 public static void enter_Array(int[] arr) {
  Scanner sc = new Scanner(System.in);
  System.out.print("Enter elements of array : ");

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

 }

 public static int findMax(int[] arr) {

  int max = Integer.MIN_VALUE;
  for (int i = 0; i < arr.length; i++) {
   if (arr[i] > max) {
    max = arr[i];
   }
  }
  return max;
 }

 public static int findMin(int[] arr) {

  int min = Integer.MAX_VALUE;
  for (int i = 0; i < arr.length; i++) {
   if (arr[i] < min) {
    min = arr[i];
   }
  }
  return min;
 }

}

public class MaxMin {
```

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

  Scanner sc = new Scanner(System.in);

  System.out.print("Enter the size of the Array  : ");
  int size = sc.nextInt();

  int arr[] = new int[size];
  FindMaxMin.enter_Array(arr);
  int max = FindMaxMin.findMax(arr);
  System.out.print("The maximum element is : " + max);
  System.out.print("\n");
  int min = FindMaxMin.findMin(arr);
  System.out.print("The minimum element is : " + min);

 }

}  */
```

// 6) .Print the third-largest number in an array without sorting it
Input: [24,54,31,16,82,45,67]
Output: 54 (82 and 67 are the largest and second-largest)

```
/*
public class Q6 {
public static void main(String[] args) {
int[] array = {24,54,31,16,82,45,67};
//Find the first largest number
int firstLargestNumber = 0;
for(int i = 0; i < array.length; i++){
if(array[i] > firstLargestNumber)
firstLargestNumber = array[i];
                    }
//Find the second largest number
int secondLargestNumber = 0;
for(int i = 0; i < array.length; i++){
if(array[i] > secondLargestNumber && array[i] < firstLargestNumber)
secondLargestNumber = array[i];
}



int thirdLargestNumber = 0;
for(int i = 0; i < array.length; i++){
if(array[i] > thirdLargestNumber && array[i] < secondLargestNumber)
thirdLargestNumber = array[i];
                                }
System.out.println("The first largest number is : " + firstLargestNumber);
System.out.println("The second largest number is : " +
secondLargestNumber);
```

```
System.out.println("The third largest number is : " + thirdLargestNumber);
                }
}  */
```

// 7)Write a program to merge two arrays of integers by reading one number at a time from each array until one of the array is exhausted, and then concatenating the remaining numbers.
// Input: [23,60,94,3,102] and [42,16,74]
// Output: [23,42,60,16,94,74,3,102]

```
/*

public class Q7 {
public static void main(String[] args) {
            int[] array1 = {23, 60, 94, 3, 102};
        int[] array2 = {42, 16, 74};
          int[] targetArray = new int[array1.length + array2.length];
    int array1Pointer = 0;
int array2Pointer;
   int targetPointer = 0;
  for(array2Pointer = 0; array2Pointer < array2.length;){
  if(array2Pointer < array1Pointer){
     targetArray[targetPointer] = array2[array2Pointer];
      targetPointer++;
     array2Pointer++;
        }
       else{
      targetArray[targetPointer] = array1[array1Pointer];
 array1Pointer++;
 targetPointer++;
 }
      }
for(; array1Pointer < array1.length; array1Pointer++){
targetArray[targetPointer] = array1[array1Pointer];
targetPointer++;
    }
for(int i = 0; i < targetArray.length; i++){
System.out.print(targetArray[i] + " ");
 }
 }
   }
```

// /*8).Write a program which takes an array of integers and prints the running average of 3 consecutive integers.
In case the array has fewer than 3 integers, there should be no output.
 Input: [5,14,35,89,140]
Output: [18, 46, 88]
(Explanation: 18=(5+14+35/3, 46=(14+35+89)/3, ...)*/

```
/*
```

```
public class Q08RunningAverage {

 public static void main(String[] args) {

  Scanner sc = new Scanner(System.in);
  System.out.print("Enter the size of the array  : ");
  int size = sc.nextInt();
  System.out.print("Enter the Array : ");
  int arr[] = new int[size];
  for(int i=0;i<size;i++)
   arr[i]=sc.nextInt();
  if(size>=3) {
   float avg = 0.0f;
   for(int i=0;i<size-2;i++) {
    int sum = arr[i]+arr[i+1]+arr[i+2];
    avg = sum/3;
    System.out.print(avg+" ");
   }

  }

 }

}
       */
```

```
//9) Write a program which generates the series 1,4,27,16,125,36

/*  public class Q09Series {

 public static void main(String[] args) {

  Scanner sc = new Scanner(System.in);

  System.out.print("Enter the number of elements in the series : ");
  int size = sc.nextInt();

  for(int i=1;i<=size;i++)
   if(i%2==0)
    System.out.print((int)Math.pow(i, 2)+" ");
   else
    System.out.print((int)Math.pow(i, 3)+" ");
  sc.close();


 }

}
  */
```

```
 /*
10) Given an array of integers, print whether the numbers are in ascending order or in descending order
or in random order without sorting
 Input: [5,14,35,90,139] Output: Ascending
 Input: [88,67,35,14,-12] Output: Descending
Input: [65,14,129,34,7] Output: Random */


/*  package com.javaArray.main;

import java.util.Scanner;

public class Q10Order {

 public static void main(String args[]) {

  Scanner sc = new Scanner(System.in);
  System.out.print("Enter the size of the array : ");
  int size = sc.nextInt();
  int arr[] = new int [size];

  System.out.print("Enter the elements of the array : ");
  for(int i=0;i<size;i++) {
   arr[i]=sc.nextInt();
  }

  int ascending=0;
  int descending=0;
  int equal = 1;

  for(int i=0;i<size-1;i++) {

   if(arr[i]!=arr[i+1]) {
    equal = 0;
    if(arr[i]>=arr[i+1])
     descending=1;
    else if(arr[i]<=arr[i+1])
     ascending=1;
   }
  }

  if(equal==1)
   System.out.println("Equal");
  else if(ascending==0&&descending==1)
   System.out.println("Descending");
  else if(ascending==1&&descending==0)
   System.out.println("Ascending");
  else
   System.out.println("Random");

 }

}
   */
```
