

## 17 APRIL 1-D ARRAY ASSIGNMENT

Q1: Write a program to print the sum of all the elements present on even indices in the given array.

Input 1: arr[] = {3,20,4,6,9}

Output 1: 16

Input 1: arr[] = {4,3,6,7,1}

Output 1: 11

CODE:-

```
import java.util.*;
public class SumOfEvenElements {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.print("enter the size of the array : ");
        int n=sc.nextInt();
        System.out.println();
        int arr[]=new int[n];
        for(int z=0;z<2;z++){
            System.out.println("Enter the array elements : ");
            for(int i=0;i<n;i++){
                arr[i]=sc.nextInt();
            }
            int sum=0;
            for(int j=0;j<n;j++){
                if(j%2==0){
                    sum+=arr[j];
                }
            }
            System.out.print("Sum of the elements present at the even
indices : "+sum);
            System.out.println();
        }
    }
}
```

OUTPUT:-

enter the size of the array : 5

Enter the array elements :

3 20 4 6 9

Sum of the elements present at the even indices : 16

Enter the array elements :

4 3 6 7 1

Sum of the elements present at the even indices : 11

**Q2: Write a program to traverse over the elements of the array using for each loop and print all even elements.**

**Input 1: arr[] = {34,21,54,65,43}**

**Output 1: 34 54**

**Input 1: arr[] = {4,3,6,7,1}**

**Output 1: 4 6**

**CODE-**

```
import java.util.*;
public class PrintEvenElements {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.print("Enter the size of the array : ");
        int n=sc.nextInt();
        System.out.println();
        int arr[]=new int[n];
        for(int z=0;z<2;z++){
            System.out.println("enter the array elements : ");
            for(int i=0;i<n;i++){
                arr[i]=sc.nextInt();
            }
            for(int j=0;j<n;j++){
                if(arr[j]%2==0){
                    System.out.print(arr[j]+" ");
                }
            }
            System.out.println();
        }
    }
}
```

**OUTPUT:-**

**Enter the size of the array : 5**

**enter the array elements :**

**34 21 54 65 43**

**34 54**

**enter the array elements :**

**4 3 6 7 1**

**4 6**

**Q3: Write a program to calculate the maximum element in the array.**

**Input 1: arr[] = {34,21,54,65,43}**

**Output 1: 65**

**Input 1: arr[] = {4,3,6,7,1}**

**Output 1: 7**

**CODE:-**

```
import java.util.*;
public class MaxElementInArray {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.print("Enter the size of the array : ");
        int n=sc.nextInt();
        System.out.println();
        int arr[]=new int[n];
        for(int z=0;z<n;z++){
            System.out.println("Enter the array elements : ");
            for(int i=0;i<n;i++){
                arr[i]=sc.nextInt();
            }
            int max=0;
            for(int j=0;j<n;j++){
                for(int y=1;y<n;y++){
                    if(arr[y]>arr[j]){
                        max=arr[y];
                    }
                }
            }
            System.out.println("Maximum element is "+max);
            System.out.println();
        }
    }
}
```

**OUTPUT:-**

**Enter the size of the array : 5**

**Enter the array elements :**

**34 21 54 65 43**

**Maximum element is 65**

**Enter the array elements :**

**4 3 6 7 1**

**Maximum element is 7**

Q4: Write a program to find out the second largest element in a given array.

Input 1: arr[] = {34,21,54,65,43}

Output 1: 54

Input 1: arr[] = {4,3,6,7,1}

Output 1: 6

CODE:-

```
import java.util.*;
public class SecondLargestElement {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.print("Enter the size of the array : ");
        int n=sc.nextInt();
        System.out.println();
        int arr[]=new int[n];
        for(int z=0;z<n;z++){
            System.out.print("Enter the array elements : ");
            for(int i=0;i<n;i++){
                arr[i]=sc.nextInt();
            }
        }
        int max=0;
        for(int j=0;j<n;j++){
            for(int y=1;y<n;y++){
                if(arr[y]>arr[j]){
                    max=arr[y];
                }
            }
        }
        int se_max=0;
        for(int u=0;u<n;u++){
            for(int h=1;h<n;h++){
                if((arr[h]>arr[u]) && arr[h]!=max){
                    se_max=arr[h];
                }
            }
        }
        System.out.println("The second largest element is : "+se_max);
    }
}
```

## OUTPUT:-

Enter the size of the array : 5

Enter the array elements :

34 21 54 65 43

The second largest element is : 54

Enter the array elements :

4 3 6 7 1

The second largest element is : 6

**Q5: Given an array. Find the first peak element in the array. A peak element is an element that is greater than its just left and just right neighbour.**

Input 1: arr[] = {1,3,2,6,5}

Output 1: 3

Input 2: arr[] = {4,7,3,2,6,5}

Output 1: 7

## CODE:-

```
import java.util.*;
public class FirstPeakElement {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.print("Enter the size of the array : ");
        int n=sc.nextInt();
        System.out.println();
        int arr[]=new int[n];
        for(int z=0;z<2;z++){
            System.out.println("Enter the array elements : ");
            for(int i=0;i<n;i++){
                arr[i]=sc.nextInt();
            }
            for(int j=1;j<=n;j++){
                if(arr[j]>arr[j-1] && arr[j]>arr[j+1]){
                    System.out.print("First Peak element is : "+arr[j]);
                    System.out.println();
                    break;
                }
            }
        }
    }
}
```

**OUTPUT:-**

**Enter the size of the array : 5**

**Enter the array elements :**

**1 3 2 6 5**

**First Peak element is : 3**

**Enter the array elements :**

**4 7 3 2 6**

**First Peak element is : 7**