Code : 1

```
package Topic_08_RecursionUsingArrays;

import java.util.Scanner;

public class A_DisplayArray {

	public static void main(String[] args) throws Exception {
		// write your code here
		Scanner s = new Scanner(System.in);
		int n = s.nextInt();
		int a[] = new int[n];
		for (int i = 0; i < n; i++) {
			a[i] = s.nextInt();
		}
		displayArr(a, a.length-1);
	}

	public static void displayArr(int[] arr, int idx) {
		if (idx == -1) {
			return;
		}
		System.out.println(arr[idx]);//To Print Straight
		displayArr(arr, idx - 1);
		System.out.println(arr[idx]);//To Print In reverse
	}
}
```

Code : 2

```
package Topic_08_RecursionUsingArrays;
import java.util.Scanner;
public class B_FindMaxInArray {

	public static void main(String[] args) throws Exception {
		// write your code here
		Scanner s = new Scanner(System.in);
		int n = s.nextInt();
		int a[] = new int[n];
		for (int i = 0; i < n; i++) {
			a[i] = s.nextInt();
		}
		int max = maxOfArray(a, a.length - 1);
		System.out.println(max);
	}

	public static int maxOfArray(int[] a, int idx) {
		if (idx == 0) {
			return a[idx];
		}
		int max = maxOfArray(a, idx - 1);
		if (a[idx] > max) {
			max = a[idx];
		}
		return max;
	}
}
```

Code : 3

```
package Topic_08_RecursionUsingArrays;
import java.util.Scanner;
public class C_FirstIndex {
	public static void main(String[] args) throws Exception {
		Scanner s = new Scanner(System.in);
		int n = s.nextInt();
		int a[] = new int[n];
		for (int i = 0; i < n; i++) {
			a[i] = s.nextInt();
		}
		int x = s.nextInt();
		int firstIndex = firstIndex(a, 0, x);
		System.out.println(firstIndex);
	}

	public static int firstIndex(int[] arr, int idx, int x) {
		if (idx == arr.length) {
			return -1;
		}
		if (arr[idx] == x) {
			return idx;
		}
		int fi = firstIndex(arr, idx + 1, x);
		return fi;
	}

}
```

Code : 4

```
package Topic_08_RecursionUsingArrays;
import java.util.Scanner;
public class D_LastIndex {
	public static void main(String[] args) throws Exception {
		Scanner s = new Scanner(System.in);
		int n = s.nextInt();
		int a[] = new int[n];
		for (int i = 0; i < n; i++) {
			a[i] = s.nextInt();
		}
		int x = s.nextInt();
		int lastIndex = lastIndex(a, a.length - 1, x);
		System.out.println(lastIndex);
	}
	public static int lastIndex(int[] arr, int idx, int x) {
		if (idx == -1) {
			return -1;
		}
		int li = lastIndex(arr, idx - 1, x);
		if (arr[idx] == x) {
			return idx;
		}
		return li;
	}
}
```

Code : 5

```
package Topic_08_RecursionUsingArrays;

import java.util.Iterator;
import java.util.Scanner;

public class E_AllIndicesOfArray {
	public static void main(String[] args) throws Exception {
		Scanner s = new Scanner(System.in);
		int n = s.nextInt();
		int a[] = new int[n];
		for (int i = 0; i < n; i++) {
			a[i] = s.nextInt();
		}
		int x = s.nextInt();
		int arr[] = allIndices(a, x, 0, 0);
		for (int i : arr) {
			System.out.println(i);
		}
	}

	public static int[] allIndices(int[] arr, int x, int idx, int count) {
		if (arr.length == idx) {
			return new int[count];
		}
		if (arr[idx] == x) {
			count++;
		}
		int[] a = allIndices(arr, x, idx + 1, count);
		if (arr[idx] == x) {
			a[count - 1] = idx;
		}
		return a;
	}
}
```