

1.

```
import java.util.*;
```

```
public class code {
```

```
    static int[] func(int nums[])
```

```
    {
```

```
        int[] ans=new int[nums.length*2];
```

```
        for(int i=0;i<(nums.length);i++)
```

```
        {
```

```
            ans[i]=ans[i+nums.length]=nums[i];
```

```
        }
```

```
        return ans;
```

```
    }
```

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

```
        Scanner scan = new Scanner(System.in);
```

```
        int n=scan.nextInt();
```

```
        int[] nums=new int[n];
```

```
        int[] ans=new int[n];
```

```
        for(int i=0;i<n;i++) nums[i]=scan.nextInt();
```

```
        ans=func(nums);
```

```
        for(int i=0;i<n*2;i++) System.out.print(ans[i]+" ");
```

```
    }
```

```
}
```

5.

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

```
public class code {
```

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

```
        Scanner scan = new Scanner(System.in);
```

```
        System.out.println("Enter size of matrix 1: ");
```

```
        int m1 = scan.nextInt();
```

```
        int n1 = scan.nextInt();
```

```
        System.out.println("Enter size of matrix 2: ");
```

```
        int m2 = scan.nextInt();
```

```
        int n2 = scan.nextInt();
```

```
        if (n1 != m2) {
```

```
            System.out.println("Cannot multiply");
```

```
        } else {
```

```
            int matrix1[][] = new int[m1][n1];
```

```
            int matrix2[][] = new int[m2][n2];
```

```
            System.out.println("Enter matrix1 elements: ");
```

```
            for (int i = 0; i < m1; i++) {
```

```
                for (int j = 0; j < n1; j++) {
```

```
                    matrix1[i][j] = scan.nextInt();
```

```
                }
```

```
            }
```

```
            System.out.println("Enter matrix2 elements: ");
```

```
            for (int i = 0; i < m2; i++) {
```

```
                for (int j = 0; j < n2; j++) {
```

```
                    matrix2[i][j] = scan.nextInt();
```

```
                }
```

```
            }
```

```
            int res[][] = new int[m1][n2];
```

```
            for (int i = 0; i < m1; i++) {
```

```

        for (int j = 0; j < n2; j++) {
            for (int k = 0; k < n1; k++) {
                res[i][j] += matrix1[i][k] * matrix2[k][j];
            }
        }
    }
}

System.out.println("Multiplied matrix: ");
for (int i = 0; i < m1; i++) {
    for (int j = 0; j < n2; j++) {
        System.out.print(res[i][j] + " ");
    }
    System.out.println();
}
}
}
}

```

## 2.

```
import java.util.*;
```

```
public class code {
```

```

    static int[] small(int[] nums)
    {
        int temp=0, n=nums.length;
        int[] sort=new int[n];
        sort=nums;

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

```

```

    {
        if(sort[j]>sort[j+1])
        {
            temp=sort[j];
            sort[j]=sort[j+1];
            sort[j+1]=temp;
        }
    }
}

//for(int i=0;i<n;i++) System.out.print(sort[i]);

return sort;
}

static int func(int nums[], int sort[])
{
    int ans=0, n=sort.length, start=0, i=0, cnt=0;

    while(true)
    {
        cnt=0;

        if(i==n) return ans; //empty

        while(nums[start%n]==9999) //updating start
            start=(start+1)%n;

        if(sort[i]==nums[start%n])
        {
            ans++;

```

```
    nums[start]=9999;

    i++;

    start++;

    System.out.println("ok");
}
else
{
    int index=start+1;

    cnt=1;

    while(index!=start)
    {
        index=index%n;

        if(nums[index]==sort[i])
        {
            cnt++;

            System.out.println(cnt+" gh");

            ans=ans+cnt;

            nums[index]=9999;

            start=index+1;

            start=start%n;

            i++;

            break;
        }

        if(nums[index]!=9999) cnt++;

        index++;
    }
```

```
    }  
    }  
}
```

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

```
    Scanner scan = new Scanner(System.in);
```

```
    int n=scan.nextInt();
```

```
    int[] nums=new int[n];
```

```
    int[] sort=new int[n];
```

```
    for(int i=0;i<n;i++) nums[i]=scan.nextInt();
```

```
    sort=small(nums);
```

```
    int ans=func(nums, sort);
```

```
    System.out.println(ans);
```

```
    }  
}
```