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**Q1)** **SOLUTION:**

public class Main

{

public void targetcheck(int[] arr,int x){

int left=0,right=0;

left=right+1;

int n=arr.length-1;

while(left!=right){

if(arr[left]+arr[right]==x){

System.out.println("["+left+","+right+"]");

break;

}

else if(arr[left]+arr[right]>x){

right=(right-1+n)%n;

}

else{

left=(left+1)%n;

}

}

}

public static void main(String[] args) {

int arr[]={2,7,11,15};

int target=9;

Main obj=new Main();

obj.targetcheck(arr,target);

}

}

**Q2) SOLUTION:**

import java.util.Arrays;

public class Main

{

public void swapper(int []arr,int val){

int l=0,c=0,r=arr.length-1;

while(l!=r){

if (arr[r]==val){

r--;

c++;

}

else if(arr[l]!=val){

l++;

}

else{

int t=arr[l];

arr[l]=arr[r];

arr[r]=t;

l++;

r--;

c++;

}

}

System.out.print(c+ ", ");

System.out.print("[");

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

if (arr[i]==val){

System.out.print("\_"+",");

}

else{

System.out.print(arr[i]+",");

}

}

System.out.print("]");

}

public static void main(String[] args) {

int arr[]={3,2,2,3};

int target=3;

Main obj=new Main();

obj.swapper(arr,target);

}

}

**Q3) SOLUTION:**

import java.util.Arrays;

public class Main

{

public int ckeckpresent(int []arr,int val){

int l=0,r=arr.length-1,c=0;

while(l!=r){

if (arr[r]==val){

return r;

}

else if(arr[l]==val){

return l;

}

else{

l++;

r--;

}

}

for(int i=0;i<=r;i++)

{

if(arr[i]<val && arr[i+1]>val)

{

c=i+1;

}

}

return c;

}

public static void main(String[] args) {

int arr[]={1,3,5,6,7,5,3,2,9};

int target=4;

Main obj=new Main();

int n=obj.ckeckpresent(arr,target);

System.out.print(n);

}

}

**Q4) SOLUTION:**

import java.util.Arrays;

public class Main

{

public void addtoarray(int []arr){

int r=arr.length-1;

while(r>=0){

if(arr[r]==9){

arr[r]=0;

r--;

}

else{

arr[r]+=1;

System.out.print(Arrays.toString(arr));

break;

}

}

}

public static void main(String[] args) {

int arr[]={1,4,0,1};

Main obj=new Main();

obj.addtoarray(arr);

}

}

**Q5) SOLUTION:**

import java.util.Arrays;

public class Main

{

public void addtoarray(int []arr,int [] arr2,int m,int n)

{

for(int i=0;i<m+n;i++){

if(i>(m-1)){

arr[i]=arr2[i-m];

}

}

Arrays.sort(arr);

System.out.print(Arrays.toString(arr));

}

public static void main(String[] args) {

int arr[]={1,2,3,0,0,0};

int arr2[]={2,5,6};

int m=3,n=3;

Main obj=new Main();

obj.addtoarray(arr,arr2,m,n);

}

}

**Q6) SOLUTION:**

import java.util.Arrays;

import java.util.\*;

public class Main

{

int zero=0;

public boolean correctzeros(int []arr)

{

Map <Integer,Integer> mymap=new HashMap<Integer,Integer>();

for(int num : arr){

if (mymap.containsKey(num)){

return true;

}

else{

mymap.put(num,1);

}

}

return false;

}

public static void main(String[] args) {

int arr[]={1,2,3,4};

Main obj=new Main();

boolean val=obj.correctzeros(arr);

System.out.print(val);

}

}

**Q7) SOLUTION:**

import java.util.Arrays;

public class Main

{

int zero=0;

public void correctzeros(int []arr)

{

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

if(arr[i]!=0){

arr[zero]=arr[i];

zero++;

}

}

while(zero<arr.length){

arr[zero]=0;

zero++;

}

System.out.print(Arrays.toString(arr));

}

public static void main(String[] args) {

int arr[]={1,0,2,0,3,0};

Main obj=new Main();

obj.correctzeros(arr);

}

}

**Q8) SOLUTION:**

import java.util.Arrays;

import java.util.\*;

public class Main

{

public void correctzeros(int []arr)

{

int index = 0;

int index2 = 0;

Map<Integer, Integer> mymap = new HashMap<>();

for (int num : arr) {

if (mymap.containsKey(num)) {

mymap.put(num, mymap.get(num) + 1);

if (mymap.get(num) > 1) {

index2 = num;

}

} else {

mymap.put(num, 1);

}

}

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

if (!mymap.containsKey(i + 1)) {

index = i + 1;

break;

}

}

System.out.println("[" + index2 + ", " + index + "]");

}

public static void main(String[] args) {

int arr[]={1,2,3,4,4};

Main obj=new Main();

obj.correctzeros(arr);

}

}