WEEK 2

1)COUNT THE OCCURANCE

You are given an array of integers nums.You are also given an integer original which is the first number that needs to be searched for in nums. You then do the following steps:
If original is found in nums, multiply it by two (i.e., set original = 2 * original).
Otherwise, stop the process.
Repeat this process with the new number as long as you keep finding the number.
Return the final value of the original.

```
import java.util.*;
public class Count{
	public static void main(String[] args){
		Scanner sc=new Scanner(System.in);
		int n,op,flag=1;
		n=sc.nextInt();
		int[] arr=new int[n];
		for(int i=0;i<n;i++) arr[i]=sc.nextInt();
		op=sc.nextInt();
		for(int i=0;i<n;i++){
			if (op==arr[i]) op*=2;
		}
		System.out.println(op);
	}
}
```

```
PS D:\230701118\java(OOPS)\WEEK 2> javac Count.java
PS D:\230701118\java(OOPS)\WEEK 2> java Count
5
5 3 6 1 12
3
24
```

2) INVENTORY MANAGEMENT

You are given an array prices where prices[i] is the price of a given stock on the ith day. You want to maximize your profit by choosing a single day to buy one

stock and choosing a different day in the future to sell that stock. Return the maximum profit you can achieve from this transaction. If you cannot achieve any profit, return 0.

```
import java.util.*;
public class Max{
	public static void main(String[] args){
		Scanner sc=new Scanner(System.in);
		int n=sc.nextInt();
		int[] arr=new int[n];
		for(int i=0;i<n;i++){
			arr[i]=sc.nextInt();
		}
		int minPrice=arr[0];
		int maxProfit=0;
		for(int i=1;i<n;i++){
			if(arr[i]<minPrice){
				minPrice=arr[i];
			}
			else{
				int profit=arr[i]-minPrice;
				if(profit>maxProfit){
				maxProfit=profit;
				}
			}
		}
		System.out.println(maxProfit);
	}
}
```

```
PS D:\230701118\java(OOPS)\WEEK 2> javac Max.java
PS D:\230701118\java(OOPS)\WEEK 2> java Max
6
7 1 5 3 6 4
5
```

3)SORT ARRAY 0'S 1'S 2'S

Given an Array of N with the elements of 0's, 1's and 2's.
Your task is to arrange the array elements in the following order.
0's followed by 1's followed 2's

```
import java.util.*;
public class ZeroOneTwo{
        public static void main(String[] args){
                Scanner sc=new Scanner(System.in);
                int n=sc.nextInt();
                int[] arr= new int[n];
                for(int i=0;i<n;i++){
                arr[i]=sc.nextInt();
                }
                Arrays.sort(arr);
                for(int i:arr) System.out.printf("%d ",i);
        }
}
```

```
PS D:\230701118\java(OOPS)\WEEK 2> javac ZeroOneTwo.java
PS D:\230701118\java(OOPS)\WEEK 2> java ZeroOneTwo
6
0 2 1 0 2 1
0 0 1 1 2 2
```

4)FIND THE MISSING NUMBER

Given an array arr[] of size N-1 with integers in the range of [1, N], the task is to find the missing number from the first N integers.

```
import java.util.*;
class Missingnumber {
public static void main(String[] args) {
        Scanner s = new Scanner(System.in);
        int n = s.nextInt();
        int arr[] = new int[n];
        for (int i = 0; i < n-1; i++) {
```

```
        arr[i] = s.nextInt();
    }
        Arrays.sort(arr);
        for(int i=0;i<n-1;i++){
                if(arr[i]+1 != arr[i+1]){
                        System.out.println(arr[i]+1);
                break;
                }
        }
        }
}
```

```
PS D:\230701118\java(OOPS)\WEEK 2> javac Missingnumber.java
PS D:\230701118\java(OOPS)\WEEK 2> java Missingnumber
5
1 3 4 5 6
2
```

5)MOVE ZERO TO END

Given an array of N elements. Your task is to move the Zeroes to the end of the Array.

```
import java.util.*;
class Zerotoend{
public static void main(String[] args){
        Scanner sc=new Scanner(System.in);
        int n=sc.nextInt();
        int[] arr= new int[n];
        for(int i=0;i<n;i++){
                arr[i]=sc.nextInt();
        }
        int temp=0, i=0;
        for(i=0;i<n;i++){
                if(arr[i]!=0){
                        arr[temp++]=arr[i];
                }
        }
```

```
        while(temp<n){
                arr[temp++]=0;
        }
        for(i=0;i<n;i++){
        System.out.print(arr[i]+" ");}
        }
}
```

```
PS D:\230701118\java(OOPS)\WEEK 2> javac Zerotoend.java
PS D:\230701118\java(OOPS)\WEEK 2> java Zerotoend
5
1 0 2 0 3
1 2 3 0 0
```