

<https://course.acciojob.com/idle?question=f3c1c3e6-40c4-4714-8c00-895bb970978b>

● EASY

● Max Score: 30 Points

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Merge Two Sorted Arrays

You are given two matrices A(of size m) and B(of size n) sorted in non-decreasing order. Your task is to merge the content of both A and B together resulting in non-decreasing order.

Matrix A should contain the first m elements of the sorted order and B should contain the last n elements.

Expected Time Complexity: $O(m+n)$

Input Format

First line contains two integers m and n respectively.

Second line contains m elements of matrix A.

Third line contains n elements of matrix B.

Output Format

Nothing is to be returned. Just modify matrices A and B in the required order.

Example 1

Input

```
6 4
1 2 4 6 7 8
3 5 6 9
```

Output

```
1 2 3 4 5 6 6 7 8 9
```

Explanation

Matrix A is modified from {1,2,4,6,7,8} to {1,2,3,4,5,6}. Similarly Matrix B is modified from {3,5,6,9} to {6,7,8,9}.

Example 2

Input

```
2 3
10 12
5 18 20
```

Output

```
5 10 12 18 20
```

Explanation

Matrix A is modified from {10,12} to {5,10}. Similarly Matrix B is modified from {5,18,20} to {12,18,20}.

Constraints

$1 \leq m, n \leq 10000$

$0 < A[i], B[i] < 10000000$

Topic Tags

- **Sorting**

My code

```
// n java
import java.util.*;
import java.lang.*;
```

```

import java.io.*;

public class Main
{
    public static void main (String[] args) throws
    java.lang.Exception
    {
        //your code here
        Scanner s=new Scanner(System.in);
        int n=s.nextInt();
        int m=s.nextInt();
        int arr[]=new int[n];
        int arrb[]=new int[m];
        int arrc[]=new int[n+m];
        for(int i=0;i<n;i++)
            arr[i]=s.nextInt();
        for(int i=0;i<m;i++)
            arrb[i]=s.nextInt();
        int a=0,b=0,c=0;
        while(a<n && b<m)
        {
            if(arr[a]<arrb[b])
                arrc[c++]=arr[a++];
            else arrc[c++]=arrb[b++];
        }
        while(a<n )
        {
            arrc[c++]=arr[a++];
        }
        while(b<m)

```

```
        {
            arrc[c++]=arrb[b++];
        }
c=0;
while(c<m+n)
    {
        System.out.print(arrc[c++]+" ");
    }
}
```