

## **Merge two sorted arrays & store in a third array**

```
#include<stdio.h>

void main()
{
    int arr1[50],arr2[50],res[100],m,n,i,j,k=0;
    printf("\n Enter size of array Array1:");
    scanf("%d", &m);
    printf("\n Enter the sorted array for Array1: \n");
    for(i=0;i<m;i++)
    {
        scanf("%d",&arr1[i]);
    }
    printf("\n Enter the size of Array2: ");
    scanf("%d",&n);
    printf("\n Enter the sorted element for Array2: \n");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr2[i]);
    }
    i=0;
    j=0;
    while(i<m && j<n)
    {
        if(arr1[i]<arr2[j])
        {
            res[k]=arr1[i];
            i++;
        }
        else
        {
            res[k]=arr2[j];
```

```
                j++;
                k++;
            }
        }
        if(i>=m)
        {
            while(j<n)
            {
                res[k]=arr3[j];
                j++;
                k++;
            }
        }
        if(j>=n)
        {
            while(i<m)
            {
                res[k]=arr1[i];
                i++;
                j++;
            }
        }
        printf("\n Aftre merging: \n");
        for(i=0;i<m+n;i++)
        {
            printf("\n%d",res[i]);
        }
    }
```

# Output

Enter size of array Array1:4

Enter the sorted array for Array1:1

3

5

7

Enter the size of Array2:5

Enter the sorted element for Array2:2

4

6

8

10

Aftre merging:

1

2

3

4

5

6

7

8

10