# MERGE SORTED

```c
          /****    Program to Merge Two Sorted Arrays    ****/

#include <stdio.h>

void merge_sorted();

int a[50], b[50], c[100], m, n;

main()
{
     int i;

     printf("\nEnter size of array A: ");
     scanf("%d", &m);

     printf("\nEnter sorted elements of array A:\n");
     for(i=0; i<m; i++)
         scanf("%d", &a[i]);

     printf("\nEnter size of array B: ");
     scanf("%d", &n);

     printf("\nEnter sorted elements of array B:\n");
     for(i=0; i<n; i++)
         scanf("%d", &b[i]);

     merge_sorted();

     printf("\nAfter merging:\n");
     for(i=0; i<m+n; i++)
         printf("\n%d", c[i]);

     getch();
}

void merge_sorted()
{
     int i=0, j=0, k=0;

     while(i<m && j<n)
     {
         if(a[i] < b[j])
         {
             c[k] = a[i];
```

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                i++;
        }
        else
        {
                c[k] = b[j];
                j++;
        }
        k++;
    }

    if(i >= m)
        while(j<n)
        {
                c[k] = b[j];
                j++;
                k++;
        }

    if(j >= n)
        while(i<m)
        {
                c[k] = a[i];
                i++;
                k++;
        }
}
```