## Assignment

## Merge two sorted arrays and store in a third array

#include <stdio.h>

void main()

{

int arr1[50], arr2[50], arr3[100], m, n, i, j=0, k = 0;

printf("\n Enter size of array first array: ");

scanf("%d", &m);

printf("\n Enter sorted elements of first array: \n");

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

scanf("%d", &arr1[i]);

}

printf("\n Enter size of sec array:");

scanf("%d", &n);

printf("\n Enter sorted elements of sec array: \n");

for (i = 0; i < n; i++)

{

scanf("%d", &arr2[i]);

}

i = 0;

while (i < m && j < n)

{

if (arr1[i] < arr2[j]) {

arr3[k] = arr1[i];

i++;

}

else{

arr3[k] = arr2[j];

j++;

}

k++;

}

if (i >= m) {

while (j < n)

{

arr3[k] = arr2[j];

j++;

k++;

}

}

if (j >= n){

while (i < m)

{

arr3[k] = arr1[i];

i++;

k++;

}

}

printf("\n After merging: \n");

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

printf("\n%d", arr3[i]);

}

}

**OUTPUT**

* Enter size of array first array: 5

Enter sorted elements of first array:

1

3

5

7

9

Enter size of sec array:5

Enter sorted elements of sec array:

2

4

6

8

10

After merging:

1

2

3

4

5

7

8

9

10

* Enter size of array first array: 3

Enter sorted elements of first array:

1

2

5

Enter size of sec array:4

Enter sorted elements of sec array:

3

6

9

10

After merging:

1

2

3

5

6

9

10

* Enter size of array first array: 5

Enter sorted elements of first array:

1

2

3

7

8

Enter size of sec array:6

Enter sorted elements of sec array:

3

4

5

6

7

8

After merging:

1

2

3

3

4

5

6

7

7

8

8