**Practical no. 8**

**AIM:**To write a program for implementation of Merge Sort.

**PROGRAM:**

#include<stdio.h>

void main()

{

int a[10],b[10],n,m,c[20],i=0,j=0,k=0;

printf("Enter number of elements in array 1 & 2:");

scanf("%d%d",&n,&m);

printf("Enter array 1:");

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

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

printf("Enter array 2:");

for(j=0;j<m;j++)

scanf("%d",&b[j]);

i=0;

j=0;

while((i<n)&&(j<m))

{

if(a[i]<=b[j])

{

c[k]=a[i];

k++;

i++;

}

else

{

c[k]=b[j];

k++;

j++;

}

}

if((i==n)&&(j!=m))

{

for(;j<m;j++,k++)

c[k]=b[j];

}

else if((j==m)&&(i!=n))

{

for(;i<n;i++,k++)

c[k]=a[i];

}

printf("Sorted array is:");

for(k=0;k<(n+m);k++)

printf("\t%d",c[k]);

}

**OUTPUT**:

Enter number of elements in array 1 & 2:4

5

Enter array 1:1

3

5

7

Enter array 2:0

2

4

6

8

Sorted array is: 0 1 2 3 4 5 6 7 8