Experiment No: 4 Date: 24 Nov 2021

Aim: To merge two arrays into a third array and sort the third array using any of the sorting technique.

Algorithm:

1. START
2. Read two arrays of size M and N respectively
3. Print the values of each of the arrays
4. Merge array 1 and array 2 into a third array array3
5. Using bubble sort or selection sort or exchange sort , sort the array3

5.1. For i=0 to i=n-1

5.1.1. For j=0 to j<n-i

5.1.2..if (array3[j]>array3[j+1])

5.1.2.1. TEMP = array3[i+1];

5.1.2.2. array3[j+1]=array3[j];

5.1.2.3. array3[j]= TEMP;

1. Display the final sorted merged array
2. STOP

Program:

#include<stdio.h>

#include<stdlib.h>

void main()

{

int a[20],b[20],c[40];

int n,i,j,temp,m;

printf("\n Enter the size of array 1: ");

scanf("%d",&n);

printf("\n Enter %d elements into the array 1:\n",n);

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

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

printf("\n Enter the size of array 2:\n");

scanf("%d",&m);

printf("\n Enter %d elements into the array 2: \n",m);

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

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

printf("\n The array 1 contains :\n");

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

printf("%d\t",a[i]);

printf("\n The array 2 contains:\n ");

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

printf("%d\t",b[i]);

printf("\n");

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

c[i]=a[i];

printf("%d\t",i);

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

c[i]=b[i-n];

printf("\n THE merged array in unsorted form\n");

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

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

//sorting using selection sort

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

{

for(j=0;j<(m+n)-i;j++)

{

if(c[j]>c[j+1])

{

temp=c[j];

c[j]=c[j+1];

c[j+1]=temp;

}

}

}

printf("\n Sorted merged array is\n");

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

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

}

OUTPUT