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**MergeSort Program-**

#include <iostream>

#include <string.h>

#include <conio.h>

using namespace std;

void Sort(int list[], int start, int mid, int end)

{

int i, j = 0, k = start;

int left[10], n1 = mid - start + 1;

int right[10], n2 = end - mid;

for(i = 0; i < n1; i++){

left[i] = list[start + i];

right[i] = list[mid + 1 + i];

}

i = 0;

while(i < n1 && j < n2){

if(left[i] >= right[j])

list[k++] = left[i++];

else

list[k++] = right[j++];

}

while(i < n1)

list[k++] = left[i++];

while(j < n2)

list[k++] = right[j++];

}

void mergeSort(int list[], int start, int end)

{

int mid = start + (end - start)/2;

if(start < end){

mergeSort(list, start, mid);

mergeSort(list, mid + 1, end);

Sort(list, start, mid, end);

}

}

int main(void){

char m;

string str;

int list[20], pos, n = 0;

cout<<"Merge Sort Program \n";

cout<<"\n";

cout<<"Enter the list of numbers to be sorted and press \* at the end of input: \n";

while((m = getchar()) != '\*'){

if(m == '\r'){

cout << " \n";

continue;

}

if(m == '\b'){

cout << " \b";

str.pop\_back();

continue;

}

str += m;

}

cout << "Sorted list of numbers: \n";

while ((pos = str.find(",")) != string::npos) {

list[n++] = stoi(str.substr(0, pos));

str.erase(0, pos + 1);

}

list[n] = stoi(str.substr(0));

mergeSort(list, 0, n);

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

cout << list[i] << ",";

}

**Output:**

|  |
| --- |
| Merge Sort Program    Enter the list of numbers to be sorted and press \* at the end of input:  6,0,-1,9,45,3,1,7,5\*  Sorted list of numbers:  45,9,7,6,5,3,1,0,-1 |