

DS MERGE SORT

The screenshot shows a C++ IDE with the following code in the editor:

```
#include <stdio.h>
#include <conio.h>
void merge(int [],int ,int ,int );
void part(int [],int ,int );
int size;
int main()
{
    int i, arr[30];
    printf("Enter total no. of elements : ");
    scanf("%d", &size);
    printf("Enter array elements : ");
    for(i=0; i<size; i++)
        scanf("%d", &arr[i]);
    part(arr, 0, size-1);
    printf("\n Merge sorted list : ");
    for(i=0; i<size; i++)
        printf("%d ",arr[i]);
    return 0;
}
void part(int arr[], int min, int max)
{
    int mid,i;
    if(min < max)
    {
        mid = (min + max) / 2;
        part(arr, min, mid);
        part(arr, mid+1, max);
        merge(arr, min, mid, max);
    }
    if (max-min == (size/2)-1)
    {

```

The compiler output shows:

```
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\jaswa\OneDrive\Documents\DS insertion sort.exe
- Output Size: 323.305640625 KiB
- Compilation Time: 0.39s
```

The screenshot shows a C++ IDE with the following code in the editor:

```
void merge(int arr[],int min,int mid,int max)
{
    int tmp[30];
    int i, j, k, m;
    j = min;
    m = mid + 1;
    for(i=min; j<=mid && m<=max; i++)
    {
        if(arr[j] <= arr[m])
        {
            tmp[i] = arr[j];
            j++;
        }
        else
        {
            tmp[i] = arr[m];
            m++;
        }
        if(j > mid)
        {
            for(k=m; k<=max; k++)
            {
                tmp[i] = arr[k];
                i++;
            }
        }
        else
        {
            for(k=j; k<=mid; k++)
            {

```

The compiler output shows:

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