

```
#include<iostream>

using namespace std;

void merge(int arr[],int p,int q,int r)

{

int n1=q-p+1;

int n2=r-q;

int L[n1],M[n2];

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

    L[i]=arr[p+i];

for(int j=0;j<n2;j++)

    M[j]=arr[q+1+j];

int i,j,k;

i=0;

j=0;

k=p;

while(i<n1 && j<n2)

{

if(L[i]<=M[j])

{

arr[k]=L[i];

i++;

}

else

{

arr[k]=M[j];

j++;

}

}
```

```

k++;

}

while(i<n1)

{

arr[k]=L[i];

i++;

k++;

}

while(j<n2)

{

arr[k]=M[j];

j++;

k++;

}

}

void mergesort(int arr[],int l,int r)

{

if(l<r)

{

int m=l+(r-l)/2;

mergesort(arr,l,m);

mergesort(arr,m+1,r);

merge(arr,l,m,r);

}

}

void printArray(int arr[],int size)

{

```

```
for(int i=0;i<size;i++)  
    cout<<arr[i]<<" ";  
    cout<<endl;  
}  
int main()  
{  
    int arr[]={12,10,5,24,55};  
    int size=sizeof(arr)/sizeof (arr[0]);  
    mergesort(arr,0,size-1);  
    cout<<"Sorted array:\n";  
    printArray(arr,size);  
    return 0;  
}
```

Sorted array:

5 10 12 24 55

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Process exited after 0.0581 seconds with return value 0

Press any key to continue . . . |