sMerge sort code

```cpp
#include<iostream>

#include<stdlib.h>

#include<omp.h>

using namespace std;



void mergesort(int a[],int i,int j);
void merge(int a[],int i1,int j1,int i2,int j2);



void mergesort(int a[],int i,int j)
{
        int mid;
        if(i<j)
        {
        mid=(i+j)/2;

        #pragma omp parallel sections
        {

        #pragma omp section
        {
        mergesort(a,i,mid);
        }

        #pragma omp section
        {
        mergesort(a,mid+1,j);
        }
```

```c
        }


        merge(a,i,mid,mid+1,j);

        }


}


void merge(int a[],int i1,int j1,int i2,int j2)
{
        int temp[1000];
        int i,j,k;
        i=i1;
        j=i2;
        k=0;


        while(i<=j1 && j<=j2)
        {
        if(a[i]<a[j])
        {
        temp[k++]=a[i++];
        }
        else
        {
        temp[k++]=a[j++];
    }
        }


        while(i<=j1)
        {
```

```cpp
        temp[k++]=a[i++];

        }


        while(j<=j2)

        {

        temp[k++]=a[j++];

        }


        for(i=i1,j=0;i<=j2;i++,j++)

        {

        a[i]=temp[j];

        }

}



int main()

{

        int *a,n,i;

        cout<<"\n enter total no of elements=>";

        cin>>n;

        a= new int[n];


        cout<<"\n enter elements=>";

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

        {

        cin>>a[i];

        }
    //      start=.......
//#pragma omp.....
```

```cpp
        mergesort(a, 0, n-1);
//      stop.......
        cout<<"\n sorted array is=>";
        for(i=0;i<n;i++)
        {
        cout<<"\n"<<a[i];
        }
        // Cout<<Stop-Start
        return 0;
}
```

Output

enter total no of elements=>4

 enter elements=>21

20

31

19

 sorted array is=>

19

20

21

31

Process exited after 11.5 seconds with return value 0

Press any key to continue . . .