**/\*WAP to implement Merge Sorting Algorithm\*/**

**#include<iostream>**

**using namespace std;**

**void merge(int A[],int beg,int mid,int end)**

**{**

**int i=beg;**

**int j=mid+1;**

**int index=beg;**

**int temp[end+1],k;**

**while(i<=mid && j<=end)**

**{**

**if(A[i]<A[j])**

**{**

**temp[index]=A[i];**

**i++;**

**}**

**else**

**{**

**temp[index]=A[j];**

**j++;**

**}**

**index++;**

**}**

**if(i>mid)**

**{**

**while(j<=end)**

**{**

**temp[index]=A[j];**

**index++;**

**j++;**

**}**

**}**

**else**

**{**

**while(i<=mid)**

**{**

**temp[index]=A[i];**

**index++;**

**i++;**

**}**

**}**

**k=beg;**

**while(k<index)**

**{**

**A[k]=temp[k];**

**k++;**

**}**

**}**

**void merge\_sort(int A[], int beg,int end)**

**{**

**int mid;**

**if(beg<end)**

**{**

**mid=(beg+end)/2;**

**merge\_sort(A,beg,mid);**

**merge\_sort(A,mid+1,end);**

**merge(A,beg,mid,end);**

**}**

**}**

**int main()**

**{**

**int n;**

**cout<<"enter number of items to be sorted:: ";**

**cin>>n;**

**int arr[n];**

**cout<<"enter "<<n<<" items:: "<<endl;**

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

**cin>>arr[i];**

**merge\_sort(arr,0,n-1);**

**cout<<"the sorted items are:: "<<endl;**

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

**cout<<arr[i]<<endl;**

**return 0;**

**}**