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#include<stdio.h>

void merge(int a[],int b[],int lb,int ub,int mid)

{

int i,j,k;

for(i=lb,j=mid+1,k=lb;i<=mid && j<=ub;k++)

{

if(a[i]<a[j])

{

b[k]=a[i];

i++;

}

else

{

b[k]=a[j];

j++;

}

}

while(i<=mid)

{

b[k]=a[i];

i++;

k++;

}

while(j<=ub)

{

b[k]=a[j];

j++;

k++;

}

for(i=lb;i<=ub;i++)

{

a[i]=b[i];

}

}

void mergesort(int a[],int b[],int lb,int ub)

{

if(lb>=ub)

{

return;

}

int mid=(lb+ub)/2;

mergesort(a,b,lb,mid);

mergesort(a,b,mid+1,ub);

merge(a,b,lb,ub,mid);

}

int main()

{

int a[10];

int b[10];

int n=10;

int ub=n-1;

int lb=0;

int i;

printf("How much elements do you want to sort:");

scanf("%d",&n);

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

{

printf("Enter a[%d]:",i);

scanf("%d",&a[i]);

}

mergesort(a,b,lb,ub);

for(i=lb;i<=ub;i++)

{

printf("%d\n",a[i]);

}

}