Iterative Merge Sort

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#include<stdio.h>
#include<stdlib.h>
void merge(int A[],int l,int mid,int h)
{
 int i,j,k;
 int B[h+1];
 i=l;j=mid+1;k=l;
 while(i<=mid && j<=h)
 {
 if(A[i]<A[j])
 B[k++]=A[i++];
 else
 B[k++]=A[j++];
 }
 for(;i<=mid;i++)
 B[k++]=A[i];
 for(;j<=h;j++)
 B[k++]=A[j];
 for(i=l;i<=h;i++)
 A[i]=B[i];
}
void IterativeMergeSort(int A[],int n)
{
 int p,i,l,mid,h;
 for(p=2;p<=n;p=p*2)
 {
 for(i=0;i+p-1<n;i=i+p)
 {
 l=i;
 h=i+p-1;
```

```
 mid=(l+h)/2;
 merge(A,l,mid,h);
 }

 }
 if(p/2<n)
 {
 merge(A,0,(p/2)-1,n-1);
 }
}
int main()
{
 int A[10],n,i;
 printf("Enter the number of element\n");
 scanf("%d",&n);
 printf("Enter %d integers\n");
 for(i=0;i<n;i++)
 scanf("%d",&A[i]);

 IterativeMergeSort(A, n);
 for(i=0;i<n;i++)
 printf("%d ",A[i]);
 printf("\n");
 return 0;
}
```