Merge Sort

```
#include <stdio.h>
#include<stdlib.h>
void swap(int *x,int *y)
{
    int temp=*x;
    *x=*y;
    *y=temp;
}
void Merge(int A[],int l,int mid,int h)
{
    int i=l, j=mid+1, k=l;
    int B[100];
    while(i<=mid && j<=h)</pre>
    {
         if(A[i]<A[j])
              B[k++]=A[i++];
         else
             B[k++]=A[j++];
    }
    for(;i<=mid;i++)</pre>
         B[k++]=A[i];
    for(; j <= h; j++)</pre>
         B[k++]=A[j];
    for(i=l;i<=h;i++)</pre>
         A[i]=B[i];
}
void IMergeSort(int A[],int n)
{
    int p,l,h,mid,i;
    for(p=2; p <= n; p=p*2)
```

```
for(i=0;i+p-1<=n;i=i+p)</pre>
             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);
}
int main()
{
   int A[]={11,13,7,12,16,9,24,5,10,3},n=10,i;
    IMergeSort(A,n);
    for(i=0;i<10;i++)</pre>
         printf("%d ",A[i]);
    printf("\n");
    return 0;
}
```