**Merge sorting:**

#include<stdio.h>

#define max 100

int arr[max+10];

int brr[max+10];

void merging(int low, int mid, int high)

{

int i,j,k;

i=low;

j=mid+1;

k=low;

while(i<=mid && j<=high)

{

if(arr[i]<=arr[j])

{

brr[k++]=arr[i++];

}

else

{

brr[k++]=arr[j++];

}

}

while(i<=mid)

{

brr[k++]=arr[i++];

}

while(j<=high)

{

brr[k++]=arr[j++];

}

for(int k=low; k<=high; k++)

{

arr[k]=brr[k];

}

}

void merge\_sorting(int low, int high)

{

if(low<high)

{

int mid=(low+high)/2;

merge\_sorting(low,mid);

merge\_sorting(mid+1,high);

merging(low,mid,high);

}

else

{

return;

}

}

int main()

{

int n;

scanf("%d",&n); ///range 1 to max

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

{

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

}

merge\_sorting(0,n-1);

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

{

printf("%d ",arr[i]);

}

printf("\n");

return 0;

}

