```
//Created by Ritwik Chandra Pandey on 6/11/21
//Heap Sort



#include <stdio.h>



void display(int arr[15],int n){
	for(int i=0;i<n;i++){
		printf("%d ",arr[i]);
	}
	printf("\n");
}
void heapify(int arr[], int n,int i){
	int largest = i;
	int l = 2*i +1;
	int r = 2*i+2;
	int temp;
	if(l<n && arr[l]>arr[largest])
	largest = l;
	if(r<n && arr[r]>arr[largest])
	 largest = r;
	if(largest!=i){
		temp =  arr[i];
		arr[i] = arr[largest];
		arr[largest] = temp;
		heapify(arr,n,largest);

	}
}
void heapsort(int arr[], int n){
	int i, temp;
	for(i=n/2 - 1;i>=0;i--){
		heapify(arr,n,i);
	}
	for(i=n-1;i>=0;i--){
		temp = arr[0];
		arr[0] = arr[i];
```

```
                arr[i] = temp;
                heapify(arr,i,0);
        }
}
void main() {
        int arr[15], i, n;
        printf("Enter array size : ");
        scanf("%d", &n);
        printf("Enter %d elements : ", n);
        for (i = 0; i < n; i++) {
                scanf("%d", &arr[i]);
        }
        printf("Before sorting the elements are : ");
        display(arr, n);
        heapsort(arr,n);
        printf("After sorting the elements are : ");
        display(arr, n);
}
```