```cpp
#include<iostream>
using namespace std;

void heapify(int arr[] , int n , int i)
{
    int largest = i;
    int l = 2 * i + 1; //left  side
    int r = 2 * i + 2;//right side

    if(l<n && arr[l]>arr[largest]) //compairing largest with left
        largest = l;

    if(r<n && arr[r]>arr[largest])//compairing largest with right
        largest = r;

    if(largest != i){

        swap(arr[i],arr[largest]);//swapping largest and i

        heapify(arr , n ,largest);//applying heapify function recursively
}
}
void heapsort(int arr[] , int n)
{
    for(int i=n / 2 - 1 ; i>=0 ; i--) //divided array into two part
    heapify(arr,n,i); //calling heapify function

    for(int i=n - 1 ; i>=0 ; i--){   //extracting element one by one into arr

     swap(arr[0],arr[i]);

     heapify(arr,i,0);  //calling max heap
}

}

 void printArray(int arr[] , int n)
 {
    for(int i = 0 ; i<n ; i++)
    cout<<arr[i]<<" ";
    cout<<"\n";
 }
```

```cpp
int main()
{
    int arr[] = {54,100,25,2,58,96,74,17,1};
    int n = sizeof(arr)/sizeof(arr[0]);

    for(int i=n/2 -1 ; i>=0 ; i--)
    {
        heapify(arr,n,i);
    }


    cout<<"\nBefore heapifying array is : ";
    printArray(arr,n);

    heapsort(arr,n);

    cout<<"\nAfter heapifying array is : ";



    return 0;
}
```