class HeapSort {

public static void main(String[] args) {

int[] arr = {22, 13, 17, 11, 10, 14, 12};

HeapSort hs = new HeapSort();

hs.sort(arr);

hs.printArray(arr);

}

void sort(int arr[]) {

int length = arr.length;

for (int i = length / 2 - 1; i >= 0; i--) {

heapify(arr, length, i);

}

for (int i = length - 1; i >= 0; i--) {

int temp = arr[0];

arr[0] = arr[i];

arr[i] = temp;

heapify(arr, i, 0);

}

}

void heapify(int arr[], int n, int i) {

int largest = i;

int li = 2 \* i + 1;

int ri = 2 \* i + 2;

if (li < n && arr[li] > arr[largest]) {

largest = li;

}

if (ri < n && arr[ri] > arr[largest]) {

largest = ri;

}

if (largest != i) {

int temp = arr[i];

arr[i] = arr[largest];

arr[largest] = temp;

heapify(arr, n, largest);

}

}

void printArray(int arr[]) {

for (int i = 0; i < arr.length; i++) {

System.out.print(arr[i] + " ");

}

}

}