

```
#include <stdio.h>
```

```
void heapify(int arr[], int n, int i) {  
    int largest = i;  
    int left = 2 * i + 1;  
    int right = 2 * i + 2;  
  
    if (left < n && arr[left] > arr[largest])  
        largest = left;  
  
    if (right < n && arr[right] > arr[largest])  
        largest = right;  
  
    if (largest != i) {  
        int temp = arr[i];  
        arr[i] = arr[largest];  
        arr[largest] = temp;  
        heapify(arr, n, largest);  
    }  
}
```

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

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

```
int main() {  
    int arr[] = {12, 11, 13, 5, 6, 7};  
    int n = sizeof(arr) / sizeof(arr[0]);  
  
    printf("Original array: \n");  
    printArray(arr, n);  
  
    heapSort(arr, n);  
  
    printf("Sorted array: \n");  
    printArray(arr, n);  
    return 0;  
}
```