

```

#include <stdio.h>

void swap(int* a, int* b) {
    int temp = *a;
    *a = *b;
    *b = temp;
}

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) {
        swap(&arr[i], &arr[largest]);
        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--) {
        swap(&arr[0], &arr[i]);
        heapify(arr, i, 0);
    }
}

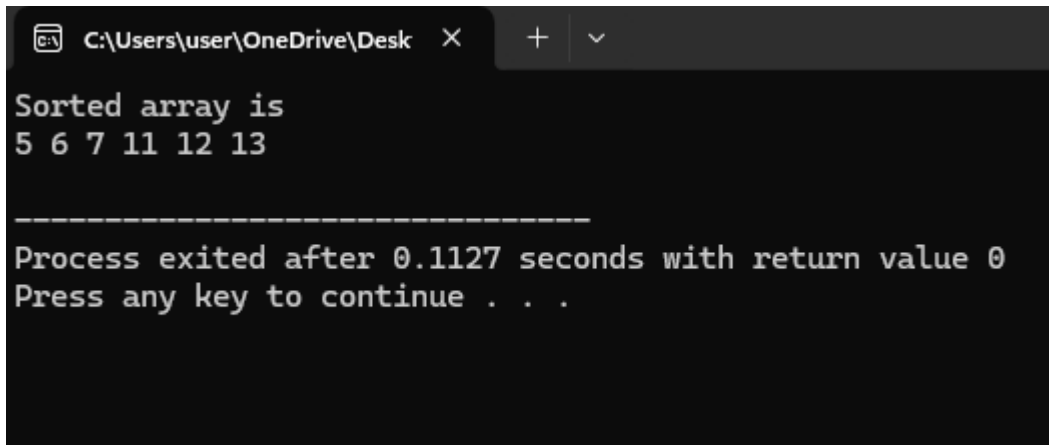
void printArray(int arr[], int size) {
    for (int i = 0; i < size; i++)
        printf("%d ", arr[i]);
    printf("\n");
}

int main() {
    int arr[] = {12, 11, 13, 5, 6, 7};
    int n = sizeof(arr) / sizeof(arr[0]);

    heapSort(arr, n);
    printf("Sorted array is \n");
    printArray(arr, n);
}

```

```
    return 0;  
}
```



The screenshot shows a Windows command prompt window with a dark background. The title bar at the top indicates the file path 'C:\Users\user\OneDrive\Desk' and includes standard window controls. The output of the program is displayed in a monospaced font. It first shows 'Sorted array is' followed by the numbers '5 6 7 11 12 13' on the next line. A dashed line separates this from the final output, which states 'Process exited after 0.1127 seconds with return value 0' and 'Press any key to continue . . .'.

```
C:\Users\user\OneDrive\Desk X + v  
Sorted array is  
5 6 7 11 12 13  
-----  
Process exited after 0.1127 seconds with return value 0  
Press any key to continue . . .
```