

```
public class heapsort
{
    public void sort(int arr[])
    {
        int n = arr.length;
        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 heapify(int arr[], int n, int i)
    {
        int largest = i; // Initialize largest as root
        int l = 2*i + 1; // left = 2*i + 1
        int r = 2*i + 2; // right = 2*i + 2
        if (l < n && arr[l] > arr[largest])
            largest = l;
        if (r < n && arr[r] > arr[largest])
            largest = r;
        if (largest != i)
        {
            int swap = arr[i];
            arr[i] = arr[largest];
            arr[largest] = swap;
            heapify(arr, n, largest);
        }
    }
    static void printArray(int arr[])
    {
        int n = arr.length;
        for (int i=0; i<n; ++i)
            System.out.print(arr[i]+" ");
        System.out.println();
    }
    public static void main(String args[])
    {
        int arr[] = {12, 11, 13, 5, 6, 7};
        int n = arr.length;

        heapsort ob = new heapsort();
        ob.sort(arr);
    }
}
```

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PRACTICAL NAME : HEAP SORT

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```
        System.out.println("Sorted array is");  
        printArray(arr);  
    }  
}
```

OUTPUT:

```
Given Array  
12 11 13 5 6 7  
  
Sorted array  
5 6 7 11 12 13  
PS C:\Users\DISHA ARYA\OneDrive\Documents>
```