Heapsort Algorithm

```
HEAPSORT(A, n)
BUILD-MAX-HEAP(A, n)
for i = n downto 2
    exchange A[1] with A[i]
    MAX-HEAPIFY(A, 1, i − 1)

BUILD-MAX-HEAP(A, n)
for i = ⌊n/2⌋ downto 1
    MAX-HEAPIFY(A, i, n)

MAX-HEAPIFY(A, i, n)
l = LEFT(i)
r = RIGHT(i)
if l ≤ n and A[l] > A[i]
    largest = l
else largest = i
if r ≤ n and A[r] > A[largest]
    largest = r
if largest ≠ i
    exchange A[i] with A[largest]
    MAX-HEAPIFY(A, largest, n)
```