

General idea: Same as selection sort, maintain the minimum (maximum) element by using heap.

MAX-HEAP: $A[1]$ always stores the largest number.

HEAPSORT(A)

- 1: BUILD-MAX-HEAP(A)
- 2: **for** $i = A.length$ downto 2 **do**
- 3: $A[1] \leftrightarrow A[i]$
- 4: $A.heap-size = A.heap-size - 1$
- 5: MAX-HEAPIFY($A, 1$)