6.3-1.

Using Figure 6.3 as a model, illustrate the operation of BUILD-MAX-HEAP on the array $A = \langle 5, 3, 17, 10, 84, 19, 6, 22, 9\rangle$.

Answer.

Figure shows the operation of BUILD-MAX-HEAP on the array $A = \langle 5, 3, 17, 10, 84, 19, 6, 22, 9\rangle$.

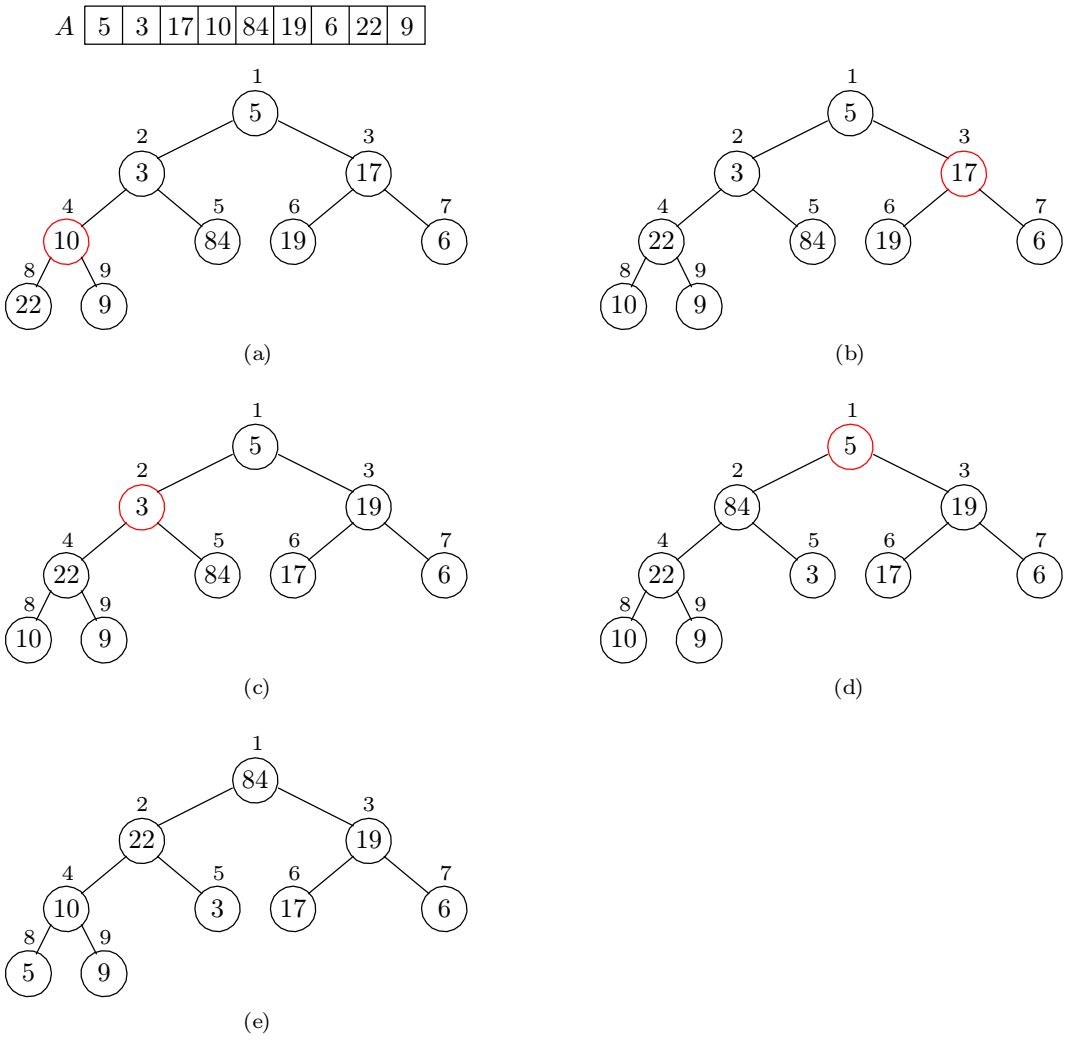

Figure 1. The operation of BUILD-MAX-HEAP, showing the data structure before the call to MAX-HEAPIFY in line 3 of BUILD-MAX-HEAP. **(a)** A 9-element input array A and the binary tree it represents. The red-circle shows that the loop index i refers to node 4 before the call MAX-HEAPIFY(A, i). **(b)** The resulting data structure. The loop index i for the next iteration refers to node 3. **(c)–(d)** Subsequent iterations of the **for** loop in BUILD-MAX-HEAP. **(e)** The max-heap after BUILD-MAX-HEAP finishes.

Email address: informlarry@gmail.com