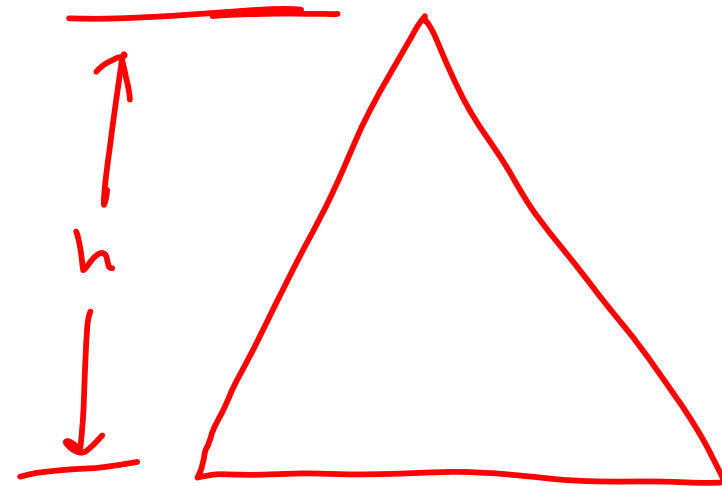
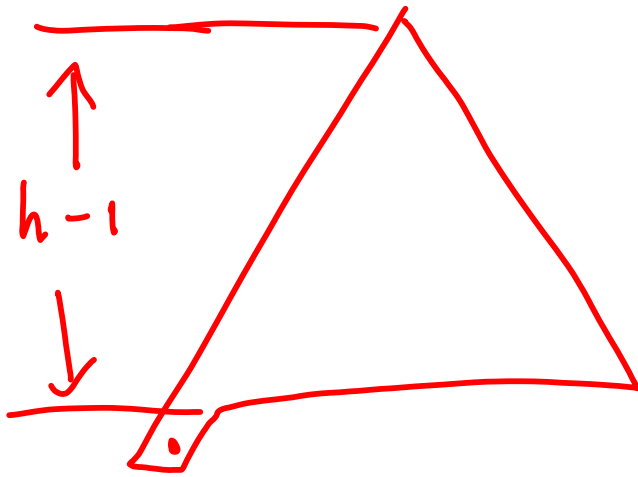


6.1-1

What are the minimum and maximum numbers of elements in a heap of height h ?

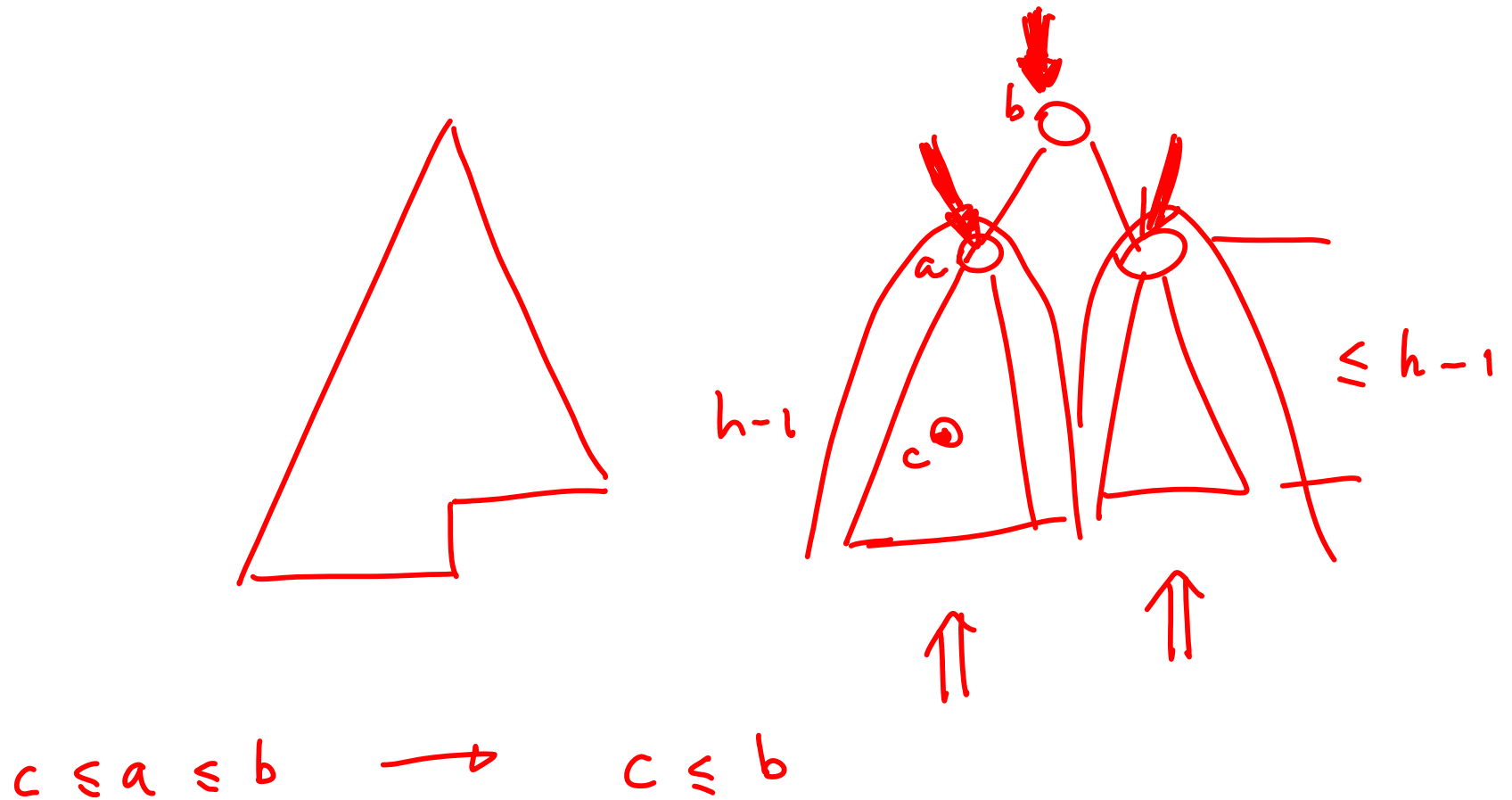


$$(2^{h-1}) + 1 = 2^h \leq n \leq 2^{h+1} - 1$$

$$2^h \leq n < 2^{h+1}$$

6.1-3

Show that in any subtree of a max-heap, the root of the subtree contains the largest value occurring anywhere in that subtree.

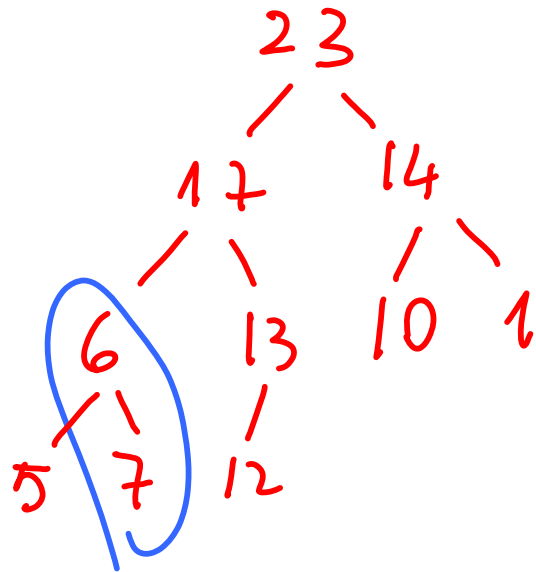


6.1-5

Is an array that is in sorted order a min-heap? 51

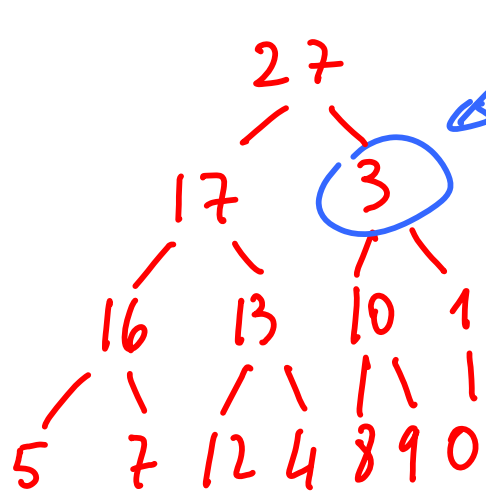
6.1-6

Is the array with values $\langle 23, 17, 14, 6, 13, 10, 1, 5, 7, 12 \rangle$ a max-heap?



6.2-1

Using Figure 6.2 as a model, illustrate the operation of MAX-HEAPIFY($A, 3$) on the array $A = \langle 27, 17, 3, 16, 13, 10, 1, 5, 7, 12, 4, 8, 9, 0 \rangle$.



MAX-HEAPIFY

