Quickcheck 05: Heaps

Name:

Consider the following sequence of numbers:

$$5, 20, 10, 6, 7, 3, 1, 2, 7, 8, 11, 3$$

(a) Insert these numbers into a min-heap where each node has up to *three* children, instead of two.

(So, instead of inserting into a binary heap, we're inserting into a ternary heap.)

Draw out the tree representation of your completed ternary heap.

(b) Draw out the array representation of the above tree. In your array representation, you should start at index 0 (not index 1).

(c) Given a node at index i, write a formula to find the index of the parent.

(d) Given a node at index i, write a formula to find the j-th child. Assume that $0 \leq j < 3$.

Another question

Do you have any questions about this course? It could be about policy, content, instructors, TAs, etc.