

# Quickcheck 06: Heaps

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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.