1. **Suppose you implement the functionality of a priority queue using a sorted array (e.g., from biggest to smallest). What is the worst-case running time of Insert and Extract-Min, respectively? (Assume that you have a large enough array to accommodate the Insertions that you face.)**
2. **Suppose you implement the functionality of a priority queue using an unsorted array. What is the worst-case running time of Insert and Extract-Min, respectively? (Assume that you have a large enough array to accommodate the Insertions that you face.)**
3. **You are given a heap with n elements that supports Insert and Extract-Min. Which of the following tasks can you achieve in O(logn) time?**
4. **You are given a binary tree (via a pointer to its root) with n nodes. As in lecture, let size(x) denote the number of nodes in the subtree rooted at the node x. How much time is necessary and sufficient to compute size(x) for every node x of the tree?**
5. **Suppose we relax the third invariant of red-black trees to the property that there are no three reds in a row. That is, if a node and its parent are both red, then both of its children must be black. Call these relaxed red-black trees. Which of the following statements is not true?**