



FIGURE 10.6 The `enq()` and `deq()` methods of the `BoundedQueue` with four slots. First a node is enqueued into the queue by acquiring the `enqLock`. The `enq()` checks that the size is 3, which is less than the bound. It then redirects the next field of the node referenced by the tail field (step 1), redirects tail to the new node (step 2), increments the size to 4, and releases the lock. Since size is now 4, any further calls to `enq()` will cause the threads to block until the `notFullCondition` is signaled by some `deq()`. Next, a node is dequeued from the queue by some thread. The `deq()` acquires the `deqLock`, reads the new value *b* from the successor of the node referenced by head (this node is the current sentinel), redirects head to this successor node (step 3), decrements the size to 3, and releases the lock. Before completing the `deq()`, because the size was 4 when it started, the thread acquires the `enqLock` and signals any enqueueers waiting on `notFullCondition` that they can proceed.