CS200 Quiz 3: Stacks, Queues (9/14/10)

Pick the **false** completion for questions 1-3.

1. Stacks and queues:
   a. *include time stamps on data elements so that they know what was added when.*
   b. are called *linear data structures.*
   c. require just three methods each for adding, removing and peeking.
   d. force data to be added to and removed from particular ends of the data structure.

2. If a stack is implemented as …
   a. an ArrayList then add is \(O(n)\) worst case.
   b. a linked list then add and remove are \(O(c)\) provided capacity is not exceeded.
   c. an array then *the preferred implementation uses a circular array.*
   d. a linked list then add to head and remove from head.

3. If a queue is implemented as …
   a. an array then elements are added to back position mod array size and removed from the front position.
   b. an array then add and remove can be \(O(c)\) provided capacity is not exceeded.
   c. an ArrayList then elements must be shifted either during enqueue or dequeue.
   d. An ArrayList then it has a lower worst case than any array implementation.

Pick the **true** completion for questions 4 & 5.

4. If the numbers 5, 10, 3, 42 are pushed onto a stack in that order, what does pop return?
   a. 5
   b. 10
   c. 3
   d. 42

5. If the numbers 5, 10, 3, 42 are enqueued onto a queue in that order, what does dequeue return?
   a. 5
   b. 10
   c. 3
   d. 42