CS200 Quiz 3: Stacks (9/11/08)

1. Circle all that are true: Stacks are/can be…
   a. FIFO linear structures.
   b. Implemented using linked lists.
   c. Implemented with adds and removes done from the same end of the data structure.
   d. Called “linear” because the data structure needs to be traversed in a linear fashion to access the nth element.

2. Circle all that are true:
   a. Because a stack can be implemented using a linked list, all of the standard linked list methods are available to the user of the stack.
   b. The item removed first from a stack is called the “top”.
   c. Stacks are always implemented using an ArrayList.
   d. The remove method for a stack is called “push”.

3. Circle all that are true: Which of these methods for the stack throws an exception?
   a. push
   b. pop
   c. peek
   d. createStack

4. Circle one: If these ints (6, 2, 5, 1, 9) are added to a stack in the order given, which will be the first to be removed:
   a. 6
   b. 2
   c. 1
   d. 9

5. Circle one: In the ArrayList implementation
   a. It is best to add at index 0.
   b. An instance variable is needed figure out which value to pop.
   c. Pop requires O(n) worst case.
   d. Worst case for push happens when current capacity is exceeded.