

CS200 Quiz 8: Trees (10/30/08)

1. [Circle one] Which is *not true* of a priority queue?
 - a. it orders data by a special search key
 - b. it obeys a FIFO strategy for deletion*
 - c. it provides access to one element at a time
 - d. it can be implemented using a binary search tree
2. [Circle one] Which is *not true* of a heap?
 - a. it is a complete binary tree
 - b. its root holds the maximum value
 - c. each subtree is also a heap
 - d. an inorder traversal produces a sorted order of keys*
3. [Circle all that are true]
 - a. The ADT Table manages data by value.*
 - b. A binary search tree is a special case of a heap.
 - c. Worst case big-O for finding a key in a binary search tree is $O(\log n)$.

- d. When you insert a new value in a binary search tree, it gets added to a leaf and then swapped with parents until it is put in the correct position.
- e. In worst case, heap deletion is $O(\log n)$.*
- f. An inorder traversal of a binary search tree produces a sorted order of keys.*
- g. Tomorrow is Halloween.*

4. [Circle all that are true] For the binary search tree below:
 - a. “9” is inserted as the left child of “15”.
 - b. To make it a heap, swap 15 and 10.
 - c. Only the data in the root can be deleted.
 - d. Assuming the algorithm from class notes, “8” will become the root if “10” is removed.
 - e. If stored as an ArrayList using the equations from class, it would look like: [10,7,15,1,8].*

