CMPSCI 187, Spring 2015 Discussion #10: Traversing Binary Trees Group Response Sheet

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Names: _____

Each *pair* of students should hand in one response sheet.

Warmup: List the ten nodes of the tree on the handout in each of the four orders:

- inorder:
- preorder:
- postorder:
- level order:

Remember: Each of these methods returns the *next* node in the given traversal order. If you expect the method to generate the entire traversal, it must start at the correct first node, which depends upon the traversal order!

Question 1: Write a method `public Node nextPreorder()` for the `Node` class. This method should return the next node in preorder, or `null` if the calling node is the last one in the tree.

Question 2: Write a method `public Node nextPostorder()` for the `Node` class. This method should return the next node in postorder, or `null` if the calling node is the last one in the tree.

Question 3: Write a method `public Node nextLevelOrder()` for the `Node` class. This method should return the next node in level order, or `null` if the calling node is the last one in the tree. You may find it useful to also write a method `public Node firstDesc(int depth)`. If the calling node has any descendants at the given `depth` (that many levels below it), `firstDesc` returns the leftmost one. This method is most easily coded recursively.