1. Write your group identifier (e.g., C3) and its members' names below. Underline your name.

2. Depict the binary search tree resulting from the insertion of the following keys, in the order listed, into an empty binary search tree.

$$42, 64, 47, 89, 29, 56, 69, 81, 74, 26$$

3. List the nodes of the tree of Question 2 in

   preorder:

   postorder:

   inorder:

   level-order:

4. Annotate each node in the tree of Question 2 by writing its _depth_ to the left of the node and _height_ to the right. Label the external nodes of the tree as $e_1, e_2, e_3, \ldots$ in preorder.

5. Determine the _internal path length_ and the _external path length_ of the tree of Question 2. How are they related?

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6. List the nodes of the tree of Question 2 that are probed when it is searched for each of the following keys. Include probes of external nodes as well as internal nodes.

$$42, 89, 99, 26$$

7. Depict the tree resulting from the deletion of each of the following keys from the tree of Question 2.

$$26, 81, 64, 42$$