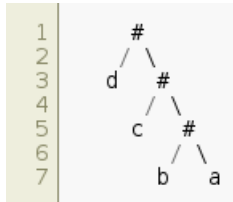


1. Given the following Huffman code: 0101101010111, and the following Huffman tree:



What is the coded message (notice that the tree branches have not been denoted as 0 or 1)?

- A.
- B.
- C.
- D.
- E.
- F.

2. Choose the appropriate running time from the list below.

The variable  $n$  represents the number of items (keys, data, or key/data pairs) in the structure. In answering this question you should assume the best possible implementation given the constraints, and also assume that every array is sufficiently large to handle all items (unless otherwise stated).

Worst case for removal from a Binary Search Tree (not necessarily AVL).

- A.
- B.
- C.
- D.
- E.

3. Consider the Binary Search Tree built by inserting the following sequence of integers, one at a time, in the given order.

6, 2, 1, 3, 9, 10, 8

What is the **height** of the tree produced?

- A.
- B.
- C.
- D.
- E.

4. Suppose that we have numbers between 1 and 1000 in a binary search tree and we want to search for the number 363. Which of the following sequences **CANNOT** be the sequence of nodes visited in the search?

- A.
- B.
- C.
- D.
- E.

5. Choose the appropriate running time from the list below.

The variable  $n$  represents the number of items (keys, data, or key/data pairs) in the structure. In answering this question you should assume the best possible implementation given the constraints, and also assume that every array is sufficiently large to handle all items (unless otherwise stated).

Perform a level order traversal of a BST.

- A.
- B.
- C.
- D.
- E.