

# Cs301 finalterm Quiz 03

## By Vusqa's EduQuest

CS301 – Data Structures (Quiz No.3)

Question # 1 of 10 ( Start time: 02:59:05 PM, 02 January 2025 )

In the worst-case scenario, \_\_\_\_\_ levels of an AVL tree must be searched during a search operation.

Select the correct option

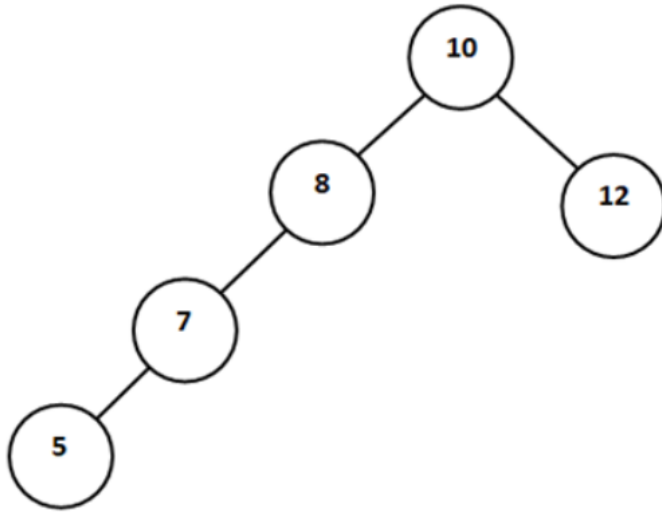
<input checked="" type="radio"/>	$1.44 \log_2 n$
<input type="radio"/>	$\log_2 n$
<input type="radio"/>	$2.44 \log_2 n$
<input type="radio"/>	$n \log_2 n$

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Question # 2 of 10 ( Start time: 02:59:33 PM, 02 January 2025 )

To balance the following AVL tree rotation is required on node \_\_\_\_\_.



Select the correct option

<input type="radio"/>	7
<input checked="" type="radio"/>	8

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Question # 3 of 10 ( Start time: 03:01:09 PM, 02 January 2025 )

Suppose we are building the AVL tree using nodes 11, 29 and 35 then which type of rotation at root node will balance the tree?

Select the correct option

- |                                  |                   |
|----------------------------------|-------------------|
| <input type="radio"/>            | Single left       |
| <input type="radio"/>            | Single right      |
| <input type="radio"/>            | Double right-left |
| <input checked="" type="radio"/> | Double left-right |

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### Question # 4 of 10 ( Start time: 03:02:11 PM, 02 January 2025 )

The \_\_\_\_\_ of a binary tree is the maximum levels of its deepest leaf.

#### Select the correct option

<input type="radio"/>	Width
<input checked="" type="radio"/>	Height
<input type="radio"/>	Balance
<input type="radio"/>	Number of nodes

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Question # 5 of 10 ( Start time: 03:02:36 PM, 02 January 2025 )

To develop a character encoding scheme in Huffman tree, \_\_\_\_\_ will be assigned to right branch.

Select the correct option

<input checked="" type="radio"/>	1
<input type="radio"/>	-1
<input type="radio"/>	1 and 0
<input type="radio"/>	0

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Question # 6 of 10 ( **Start time: 03:03:00 PM, 02 January 2025** )

----- stage in compiler, recognizes common sub-expressions.

Select the correct option

<input type="radio"/>	Pre-processing
<input checked="" type="radio"/>	Optimization
<input type="radio"/>	Intermediate Code Generation
<input type="radio"/>	Linking

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Question # 7 of 10 ( Start time: 03:03:27 PM, 02 January 2025 )

The balance of a node in a binary tree is defined as the height of its \_\_\_\_\_ sub tree minus height of its right sub tree.

Select the correct option

- |                                  |       |
|----------------------------------|-------|
| <input type="radio"/>            | right |
| <input type="radio"/>            | upper |
| <input checked="" type="radio"/> | left  |
| <input type="radio"/>            | lower |

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Question # 8 of 10 ( Start time: 03:04:27 PM, 02 January 2025 )

To develop a character encoding scheme in Huffman tree, \_\_\_\_\_ will be assigned to left branch.

Select the correct option

- |                                  |         |
|----------------------------------|---------|
| <input checked="" type="radio"/> | 0       |
| <input type="radio"/>            | 1       |
| <input type="radio"/>            | 1 and 0 |
| <input type="radio"/>            | -1      |

Question # 9 of 10 ( Start time: 03:04:47 PM, 02 January 2025 )

A balanced AVL tree is constructed using four different nodes and the balance factor of root node is "-1". Deletion on which side of root node will make the tree unbalanced?

Select the correct option

- |                                  |  |
|----------------------------------|--|
| <input type="radio"/>            | Tree will not become unbalanced with any deletion    |
| <input type="radio"/>            | Left   |
| <input checked="" type="radio"/> | Right  |
| <input type="radio"/>            | Balance factor "-1" means tree is already unbalanced |

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Question # 10 of 10 ( Start time: 03:05:21 PM, 02 January 2025 )

While building Huffman encoding tree the parent node is \_\_\_\_\_ of left and right child nodes.

Select the correct option

<input type="radio"/>	Subtraction
<input type="radio"/>	Multiplication
<input checked="" type="radio"/>	Addition
<input type="radio"/>	Division

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