

Data structure-6

SL NO	QUESTIONS
1	If a binary tree is well balanced, approximately how many nodes are in the tree given the depth of the tree?
	$2^n - 1$ where n is the depth of the tree.
2	What condition do you check to see if a node in a binary tree is a leaf node?
	Both the child node pointers are set to NULL.
3	How do you delete a node from a binary tree that has two child nodes?
	Replace the node being deleted with the leftmost child of the right subtree. You could also replace it with the rightmost child of the left subtree.
4	How do you delete a node from the binary tree that has one child node?
	Change the value of the pointer in the parent node to the value of the child node, and then delete the node.
5	How do you delete a leaf node from a binary tree?
	Change the value of the pointer in the parent node to NULL, and then delete the node.
6	What is the basic rule for where the nodes get placed into a binary tree?
	All the nodes to the right have a key greater than the current node and all the nodes to the left have a key less than the current node. This rule applies to each and every node of the tree.
7	How do you insert a node into a binary tree?
	Start at the root of the tree. If the key is greater than this node, move to the right. If the key is less than this node, move to the left. Continue until a NULL pointer is found, and then change the value of this pointer to the address of the new node.
8	How would you check if a binary tree is empty?
	The tree is empty if the root node of the tree is NULL.
9	When searching for a key in a binary tree, what stops the recursive function calls?
	One of two conditions—either the key is found or a NULL pointer is found.
10	What is the sequence of function calls to do an “in order” traversal of a binary tree?
	Traverse Left subtree, visit the root, and then traverse the right. subtree