Chandigarh College of Engineering and Technology, (Degree Wing) Chandigarh
Department of Computer Science and Engineering

CS-301: Data Structures Assignment: 11 Date: 05.11.2024

S. No.	**Note:** Start answer of a fresh question from fresh page only. Direct answer to a question will not be entertained.	course outcome (CO)
1.	Differentiate between AVL Tree and BST. Wherever possible use suitable example in support of your answer.	CO301.4
2.	Why rotation is important in AVL Tree? Discuss single and double rotation with the help of suitable example.	CO301.4
3.	If we construct an AVL tree for the data set : 14, 15, 16, 13, 12, 11, 10 then what will be height of the tree. After that insert 1, 2, 3, 4, 5, 7, 6, 9, 8 and find the height of resulting AVL Tree. You are also required to notify rotation used in building the tree.	CO301.4
4.	Consider the following prime numbers data set which are falling between 1 and 100– 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97. And perform the following operation on the above data set. (a) Construct an AVL tree (b) Delete data from AVL tree 13, 47 and 79.	CO301.4
5.	Delete data 4 and 13 from Binary tree shown in Figure 1 and find the resulting binary tree after each deletion.	CO301.1

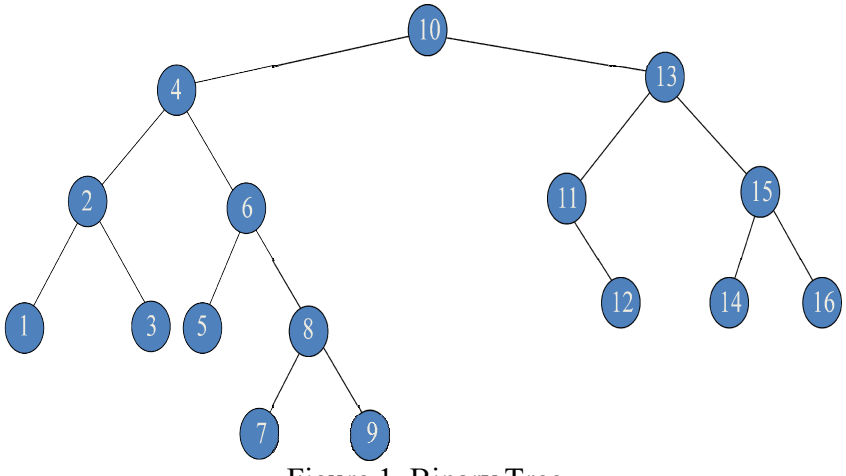

Figure 1. Binary Tree