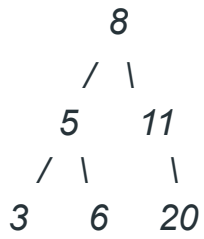
Binary Search Trees
(Assignment Questions)

Question 1 : Given the root node of a binary search tree and two integers low and high, return the sum of values of all nodes with a value in the inclusive range [low, high]. [Go to Qs] **(EASY)**

Question 2 : We have a binary search tree and a target node K. The task is to find the node with minimum absolute difference with given target value K.

Examples :



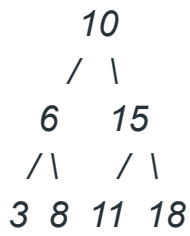
Input 1: K = 5
Output 1 : ans = 5 (abs diff = 0)

Input 2 : K = 19
Output 2: ans =20 (abs diff = 1)

Question 3 : Given the root of a binary search tree, and an integer k, return the kth smallest value (1-indexed) of all the values of the nodes in the tree.[Go to Qs] **(MEDIUM)**

Question 4 : Given two binary search trees, return True if and only if there is a node in the first tree and a node in the second tree whose values sum up to a given integer target.

Examples :



x = 16 (Target)

Output: ans = 3, The pairs are: (5, 11), (6, 10) and (8, 8)

Question 5 : Given a binary tree root, return the maximum sum of all keys of any sub-tree which is also a Binary Search Tree (BST).

Assume a BST is defined as follows:

- The left subtree of a node contains only nodes with keys less than the node's key.
- The right subtree of a node contains only nodes with keys greater than the node's key.
- Both the left and right subtrees must also be binary search trees.

[Go to Qs] **(HARD)**