

## BST Questions

**Question 1 :**

### **Range Sum of BST**

We have a Binary Search Tree consisting of N nodes and two positive integers L and R, the task is to find the sum of values of all the nodes that lie in the range [L, R]..

**Sample Input1::**

```
8
 / \
5   11
/ \   \
3   6  20
```

**Sample Output1 :11**

**Question 2 :**

### **Find the closest element in Binary Search Tree**

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.

```
8
 / \
5   11
/ \   \
3   6  20
```

**Sample Input 1 :5**

**Sample Output 1 :5** (difference is 0)

**Sample Input 2 :19**

**Sample Output 2 :20** (difference is 1)

**Question 3 :**

### **Find k-th smallest element in BST**

We have the root of a binary search tree and K as input, find Kth smallest element in BST.

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```
8
 / \
5   11
/ \   \
3   6  20
```

**Sample Input 1 :** k=3

**Sample Output 1 :** 8

**Sample Input 2 :** k=5

**Sample Output 2 :** 5

**Question 4 :**

**Two Sum BSTs**

Given a BST, transform it into a greater sum tree where each node contains sum of all nodes greater than that node.

**Sample Input 1 :**

```
5
 / \
3   7
/\ /\
2 4 6 8
```

```
10
 / \
6   15
/\ /\
3 8 11 18
```

x = 16

**Sample Output 1 :** 3

The pairs are:

(5, 11), (6, 10) and (8, 8)

**Question 5 :**

**Maximum Sum BST in Binary Tree**

We have a binary tree, the task is to print the maximum sum of nodes of a sub-tree which is also a Binary Search Tree.

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**Sample Input 1 :**

```
5
/ \
9  2
/   \
6   3
/\
8  7
```

**Sample Output 1 : 8**

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