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.

```
        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.

Sample Input 1 :

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

Sample Output 1 : 8