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