

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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