

① 2Sum BST: Return true if there are two nodes in the tree that equal target number.

Algo: ① Simultaneously do inorder and reverse inorder and add to two stacks.

② Now, iterate the stacks and check sum. If $\text{sum} > \text{target}$ pop from S_2 , else pop from S_1 .

```
boolean 2SumBST(Node root, int target) {  
    if (root == null) return false;
```

```
    Stack<Integer> S1 = new Stack<>();
```

```
    Stack<Integer> S2 = new Stack<>();
```

```
    inOrder(root, S1);
```

```
    ReverseInOrder(root, S2);
```

```
    while (!S1.isEmpty() && !S2.isEmpty()) {
```

```
        int sum = S1.peek() + S2.peek();
```

sum == target && (S1.peek() != S2.peek())

```
        if (sum == target) return true;
```

```
        if (sum > target) S2.pop();
```

```
        else S1.pop();
```

```
} (n stack) } segfaulted this
```

```
} (n stack) not released stack
```

```
return false;
```

```
} (last node (lun == n))
```

```
} (tfl-n) segfaulted
```

```
} (tfl-n) segfaulted == lun
```

```
} (lun-n) segfaulted
```

```
} (tfl-n) segfaulted
```

```
} (lun)
```