

Programming Assignment 3 - Interval Tree

Test Cases

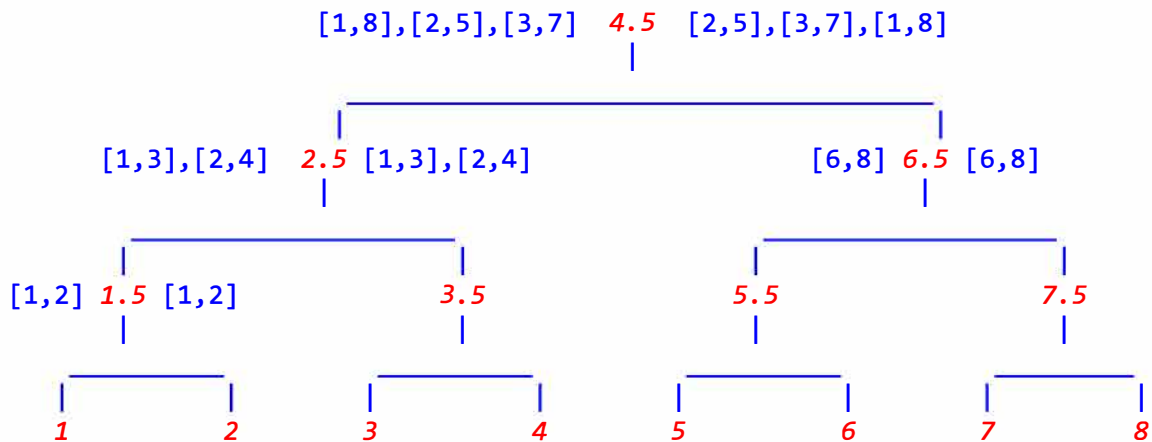
If you got fewer than full points for any of the test cases, you should run your program on all test cases and see what the tree looks like. (And for `findIntersectingIntervals`, check the resulting intervals - order does not matter.)

Note that your program might be spitting output that you didn't suppress before turning it in. In which case, the grade report will be cluttered with your own mess, which you will have to wade through to isolate the lines printed by the test program.

Test Trees

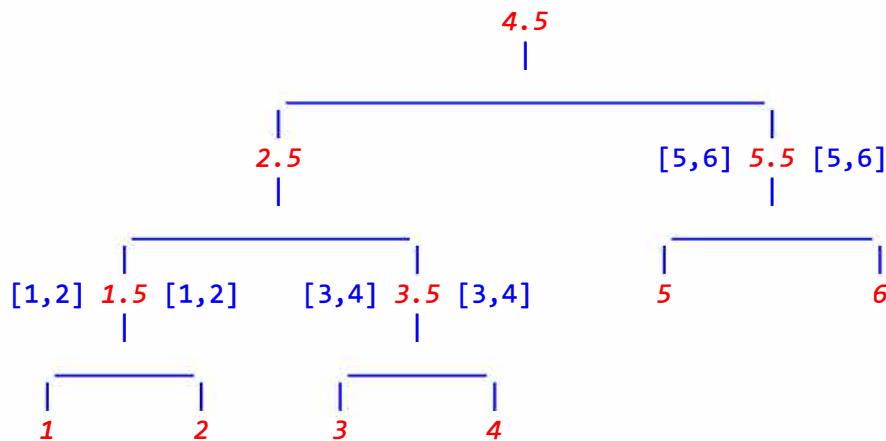
tree1

```
1 8 one
2 5 two
3 7 three
1 2 four
2 4 five
6 8 six
1 3 seven
```



disjointTree

```
1 2 interval1
3 4 interval2
5 6 interval3
```



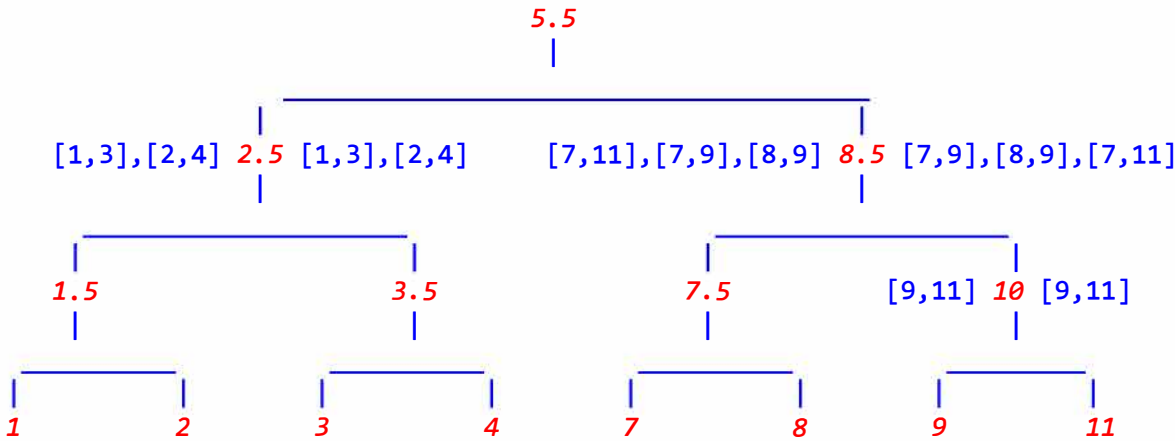
dupTree

```
1 3 copy1    [1,3], [1,3] 2 [1,3], [1,3]
1 3 copy2    |
```



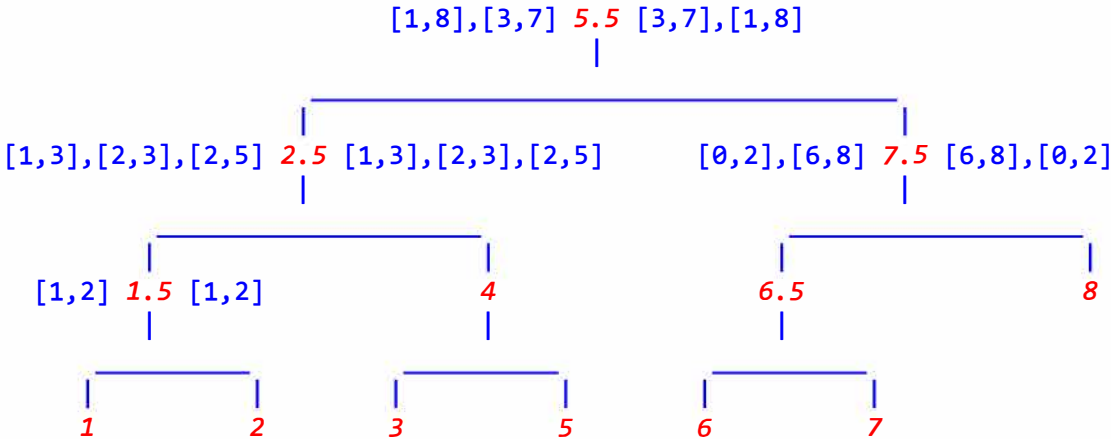
tree4

1 3 one
2 4 two
8 9 three
7 9 four
7 11 five
9 11 six



distortedTree

1 2 one
1 3 two
1 8 three
2 3 four
2 5 five
3 7 six
6 8 seven



Test Cases

sortIntervals (10 pts)

Test Case	Points
tree1	5
dupTree	2
tree4	3

getSortedEndPoints (15 pts)

Test Case	Points
tree1	4
disjointTree	4
dupTree	3
tree4	4

buildTreeNodes (20 pts)

Test Case	Points
tree1	5
disjointTree	5
dupTree	5
tree4	5

mapIntervalsToTree (15 pts)

Test Case	Points
tree1	4

findIntersectingIntervals (15 pts)

Test Case	Points	Query/Answer
tree1	3	[1 1] / [1,8],[1,3],[1,2]

disjointTree	4	[2 3] / [1,8],[2,5],[3,7],[1,3],
dupTree	3	[2,4],[1,2]
tree4	4	[0 0] / Empty Set
disjointTree	3	[1 4] / [1,2],[3,4] [7 8] / Empty Set [3 5] / [3,4],[5,6]
dupTree	3	[1 1] / [1,3],[1,3] [2 4] / [1,3],[1,3] [4 7] / Empty Set
tree4	3	[2 7] / [1,3],[2,4],[7,11],[7,9] [1 3] / [1,3],[2,4] [4 7] / [2,4],[7,11],[7,9]
distortedTree	3	[3 5] / [1,8],[3,7],[2,5],[2,3], [1,3] [2 3] / [1,8],[3,7],[1,3],[2,3], [2,5],[1,2] [9 11] / Empty Set