Homework 3

Group 42

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3.2

recursiveMergeSort() will be called 11 times

3.5

list = {5,4,2,9,1,7,3,8,6}, pivot = 5, leftIndex = -1, rightIndex = 9

while loop pass 1:

leftIndex ends up at 0, rightIndex ends up at 6

leftIndex < rightIndex so swap list[0] and list[6]: list = {3,4,2,9,1,7,5,8,6}

while loop pass 2:

leftIndex ends up at 3, rightIndex ends up at 4

leftIndex < rightIndex so swap list[3] and list[4]: list = {3,4,2,1,9,7,5,8,6}

While loop pass 3:

leftindex ends up at 4, rightindex ends up at 4

While loop termintates because leftIndex = 4 is >= rightIndex = 4

partition() returns 4 so listL = {3,4,2,1}, listR = {9,7,5,8,6}

4.1

included in the Zip folder

4.3

included in the Zip folder

5.1

A. 5, 6, 2, 9

B. 3, 7

C. 5, 9, 1, 4

D. 7, 8, 6, 2, 3

5.2

C. 7 – 8 – 5 – 6 – 2 – 9 – 3 – 1 – 4

5.3

included in the Zip folder

5.6

A. 5

/ \

4 8

/ / \

3 7 9

/ /

2 6

/

1

B. The height of the tree would be 5