Final Review  
1. Toh

2. read/write disk  
Text

Description automatically generated  
A picture containing text, receipt

Description automatically generated

3. previous finals

Write a function that prints out the n values of the search tree in descending order:

Print\_desc(n)

{

If (n==null) return;

Print\_desc(n.right);

Print\_desc(n.value);

Print\_desc(n.left);

}

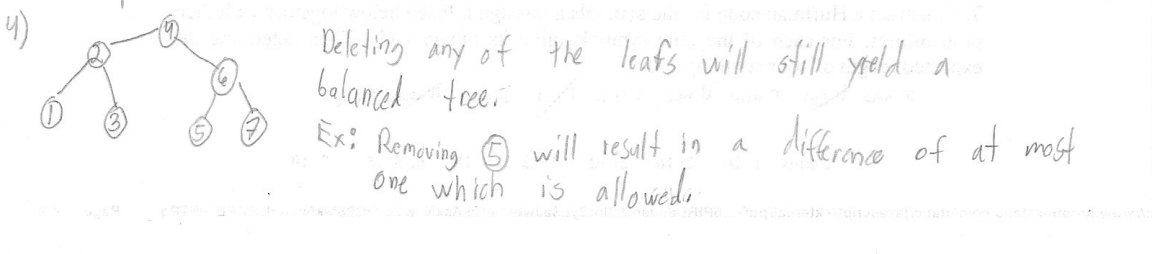
Worst case time: O(n)

Worst space: O(n)  
**Because you would have to print everything in this case**

A piece of paper with writing

Description automatically generated with medium confidence

4. previous finals

Show a tree where you can remove a node without needing to rebalance the avl tree  
  
Text, letter

Description automatically generated

5. Euclid alg/ prev finals  
<https://www.calculatorsoup.com/calculators/math/modulo-calculator.php>  
EXCEL  
<https://replit.com/@SaimAli6/leiss#main.py>

6. prev test2s/finals

**(A)**[**https://www.cs.usfca.edu/~galles/visualization/BST.html**](https://www.cs.usfca.edu/~galles/visualization/BST.html)

a)

b)

**(B)**[**https://www.cs.usfca.edu/~galles/visualization/AVLtree.html**](https://www.cs.usfca.edu/~galles/visualization/AVLtree.html)

a)

b)

7. Huffman code  
<https://huffman.ooz.ie/>

Diagram

Description automatically generated  
Huffman Encoding Guide:

1. Set up characters with the lowest frequency to highest.

2. Select 2 lowest frequencies, connect them, then add them together.

3. Label 0 for smaller number, 1 for big number (If the 2 values are the same, label 0 for left value, 1 for right).

4. Go back to step 2 until only 1 value remains.

5. Starting from the end of the tree, trace it to the letter to determine its code.

6. Once all characters' codes are determined, count the amount of digits for each code to get its length.

7. Once all lengths are determined, compute for the final result.

8. idk  
Text

Description automatically generated

9. idk  
A drawing on a piece of paper

Description automatically generated with medium confidenceA picture containing diagram

Description automatically generated  
  
RSA QUESTION : Also, answer for RSA question is O(2logn.m^(log3)). Dont ask me how, TA wrote that as answer in my midterm paper.