*HW2-Trees

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1)

Preorder: - x x A B - + C D E / F + G H

Inorder: A x B x C + D – E – F / G + H

Postorder: A B x C D + E – x F G H + / -

2)

1.   58

2.   58
                    40

3.   58
                    40
                        49

4.   58
                     40
                  21   49

5.   58
                      40   95
                  21   49

6.   58
                      40   95
                  21   49   75

7.   58

                    40   95

              21   49   75   150

8.   58

              40   95

21   49   75   150

                                              94

9.   58

              40   95

21   49   75   150

    30   94

10.   58

              40   95

21   49   75   150

    30   94

                                        80

11.   58

              40   95

21   49   75   150

    30   67   94

                                    80

12.   58

                    40   95

        21   49   75   150

   12   30   67   94

                                                                   80

13.   58

                    40   95

        21   49   75   150

   12   30   67   94

                                                                   80

                                                                   77

14.   58

                    40   95

        21   49   75   150

   12   30   67   94   100

                                                                   80

                                                              77

15.   58

                    40   95

        21   49   75   150

   12   30   94   100

                                                                   80

                                                              77

16.   58

           40   95

   21   49   75   150

12   94   100

                                80

                         77

17.   49

           40   95

   21   75   150

12   94   100

                                80

                         77

Q4. The worst-case running time complexities of the addNgram is O(n) where n is the number of nodes. My operator<< implementation is wrong because I used inorder traversal print, and its complexity is O(n). Because it traverses each node once.