05/15/17 02:38:59 /Users/hostname/Desktop/CSE 330/HW1/[Homework 1] Adnar Lozano.cpp

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 1  Adnar Lozano
 2  CSE 330
 3  Data Structures
 4  5/19/17
 5
 6  Homework 1
 7
 8  1a)    Node A is the root
 9  1b)    Node G, H, I, K, L, and M are leaves
10
11  2a)    Node B and C have A as a parent
12      Node D and E have B as a parent
13      Node F has C as a parent
14      Node G and H have D as a parent
15      Node I and J have E as a parent
16      Node K has F has a parent
17      Node L and M have J as a parent
18  2b)    Node A has B and C as children
19      Node B has D and E as children
20      Node C has F as child
21      Node D has G and H as children
22      Node E has I and J as children
23      Node F has K as a child
24      Node J has L and M as children
25  2c)    Node B and C are siblings
26      Node D and E are siblings
27      Node G and H are siblings
28      Node I and J are siblings
29      Node L and M are siblings
30  2d)    Node A has depth 0
31      Node B and C have depth 1
32      Node D, E, and F have depth 2
33      Node G, H, I, J, K have depth 3
34      Node L and M have depth 4
35  2e)    Node A has height 4
36      Node B has height 3
37      Node C has height 3
38      Node D has height 1
39      Node E has height 2
40      Node F has height 1
41      Node J has height 1
42      Node G, H, I, K, L, and M have height 0
43
44  3)    The depth of the tree is 4
45
46  4a)    see attachment
47  4b)    see attachment
48
49  5)    Stack
50
51  6a)    O(n)
52  6b)    O(n^2)
53  6c)    O(n^3)
54  6d)    O(n^2)
55  6e)    O(n^5)
56  6f)    O(n^4)
57
58
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