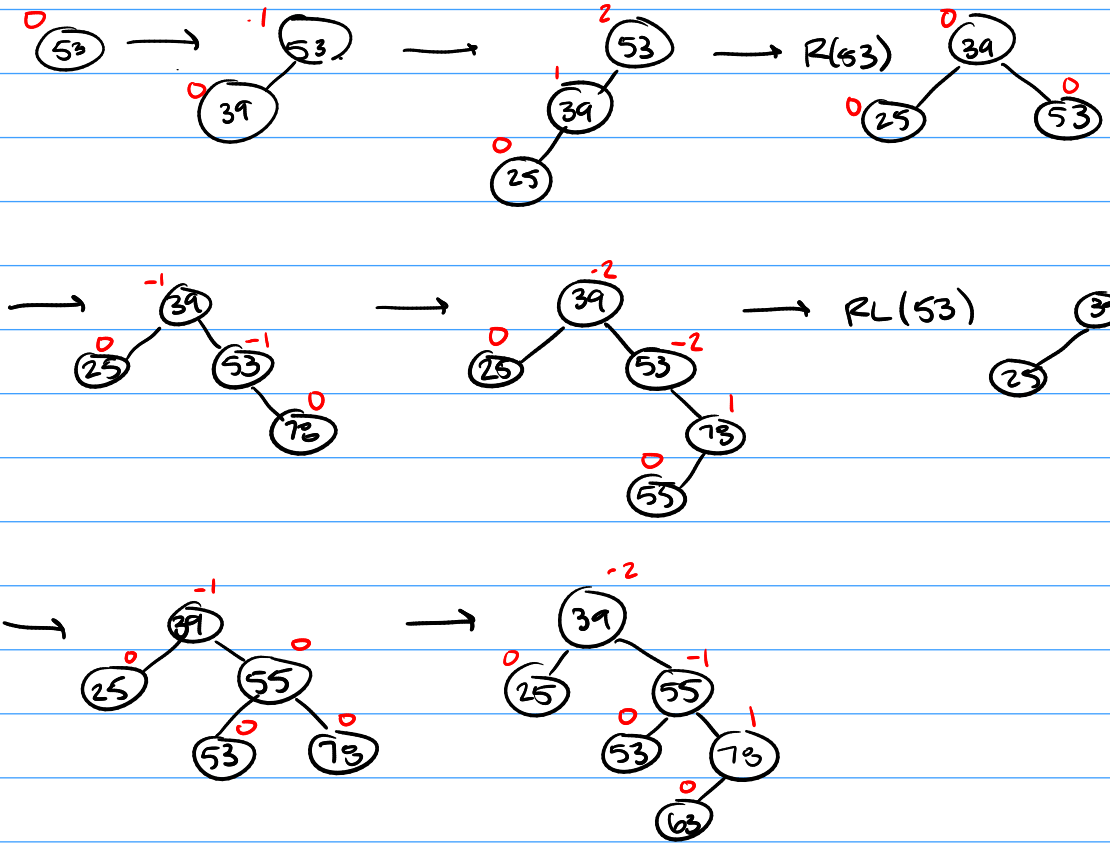
HW 6

Andrew Davison

1. Insert the following nodes 53, 39, 25, 78, 55, 63.



Pre-Order Traversal:

Root → Left Child → Right Child

39, 25, 55, 53, 78, 63

In-Order Traversal:

Left Child → Root → Right Child

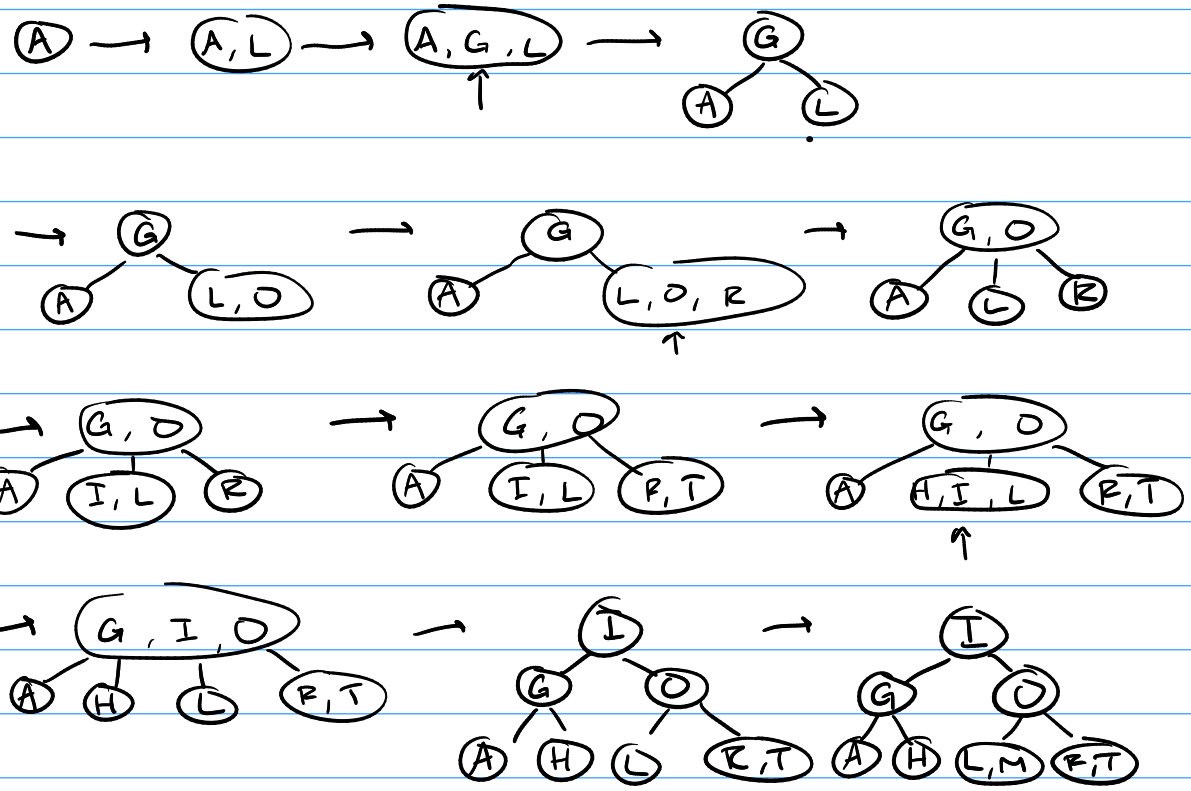
25, 39, 53, 55, 63, 78

Post-Order Traversal:

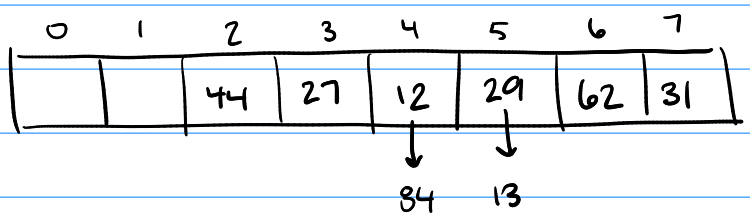
Left Child → Right Child → Root

25, 63, 53, 78, 55, 39

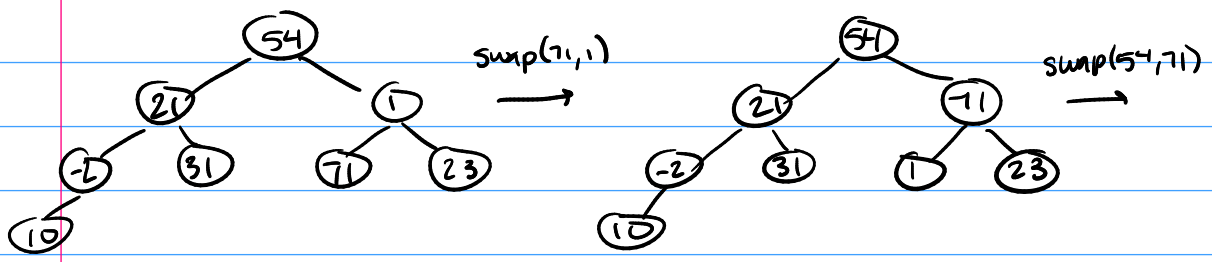
2. Insert A, L, G, O, R, I, T, H, M in 2-3 tree

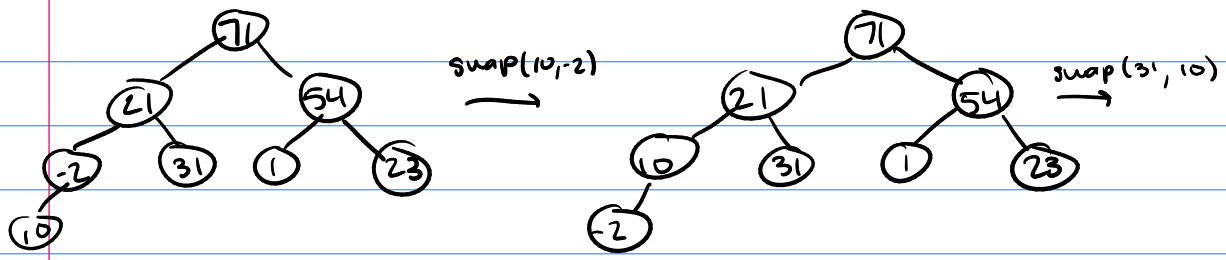


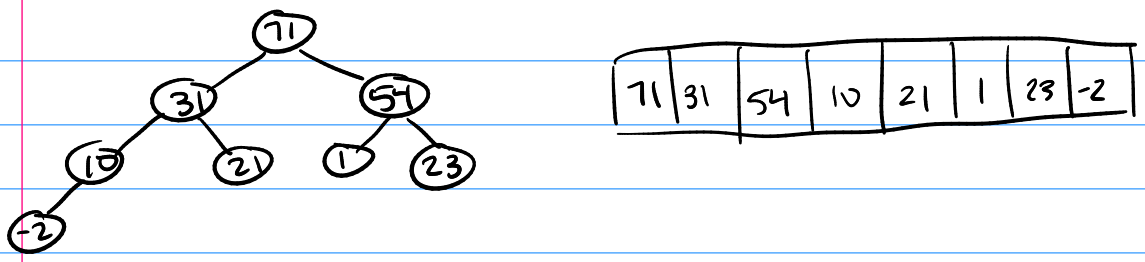
3. Hash function : $h(k) = k \bmod 8$ input : 29, 13, 12, 84, 31, 27, 44, 62



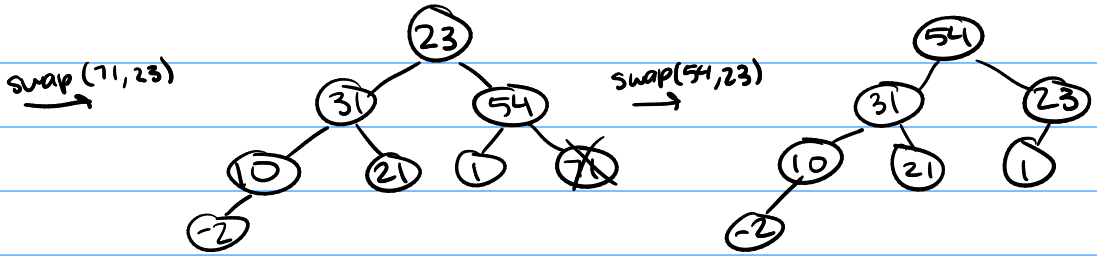
4. Apply HeapSort to 54, 21, 1, -2, 31, 71, 23, 10



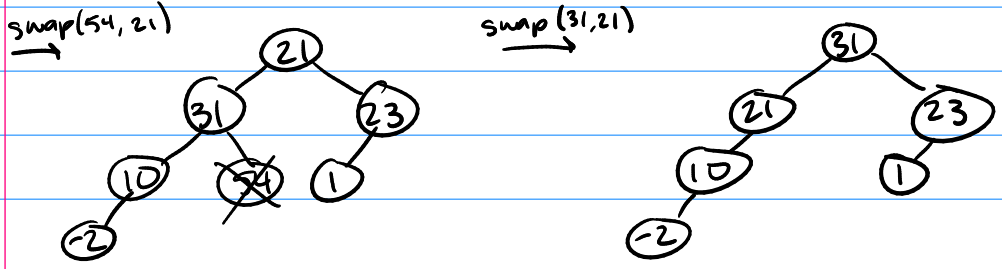




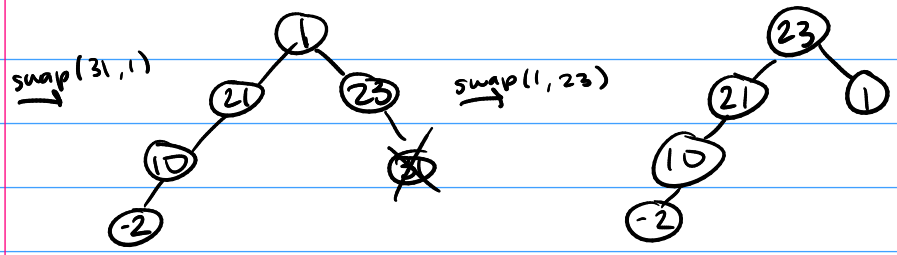
Max Delete (71):



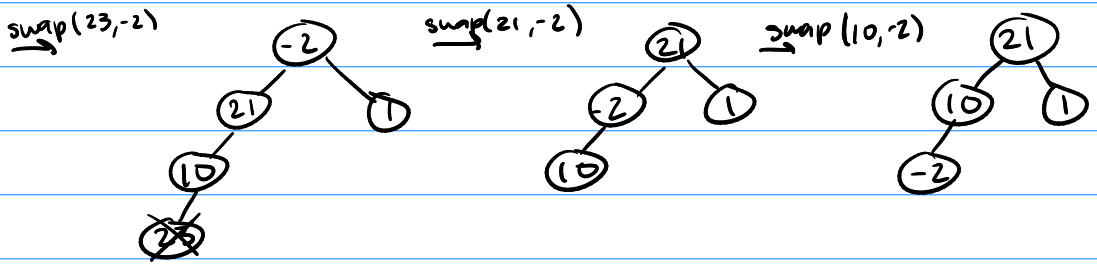
Max Delete (54):



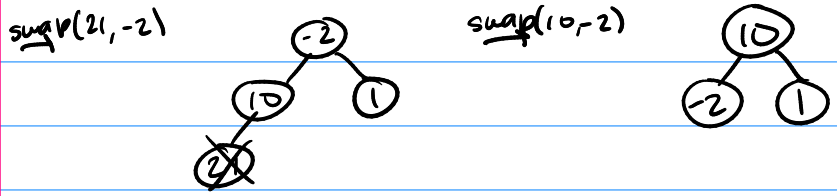
MaxDelete(31):



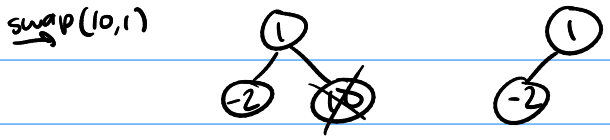
MaxDelete(23):



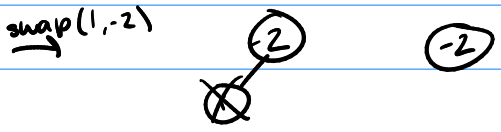
MaxDelete(21):



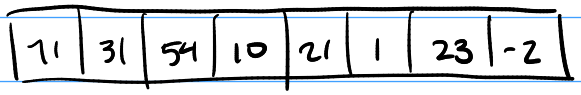
MaxDelete(10):



MaxDelete(1):



MaxDelete(-2): ~~78~~



After MaxDelete(71): 54 31 23 10 21 1 -2 | 71

After MaxDelete(54): 31 21 23 10 1 -2 | 54 71

After MaxDelete(31): 23 21 1 10 -2 | 31 54 71

After MaxDelete(23): 21 10 1 -2 | 23 31 54 71

After MaxDelete(21): 10 -2 1 | 21 23 31 54 71

After MaxDelete(10): 1 -2 | 10 21 23 31 54 71

After MaxDelete(1): -2 | 1 10 21 23 31 54 71

After MaxDelete(-2): -2 1 10 21 23 31 54 71