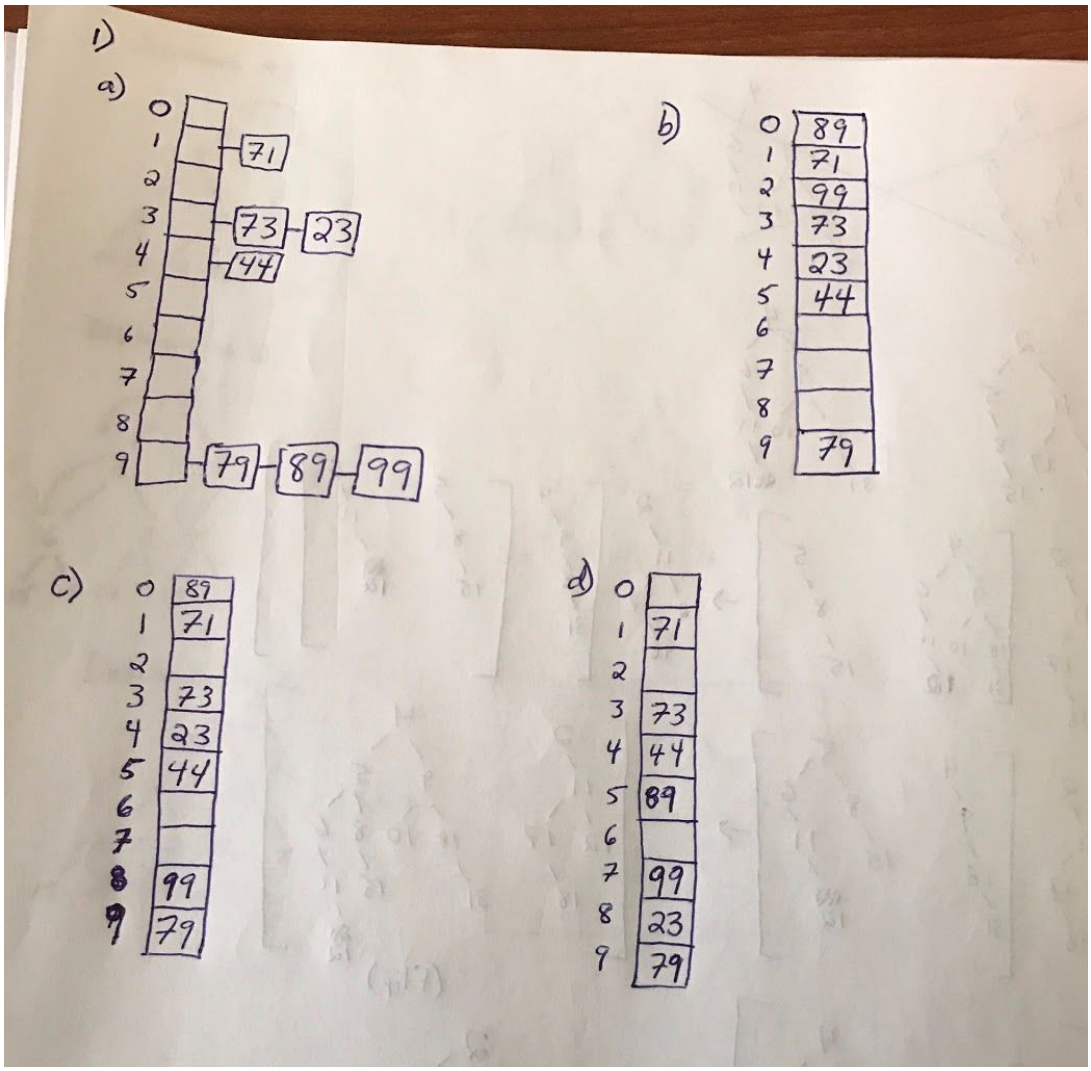
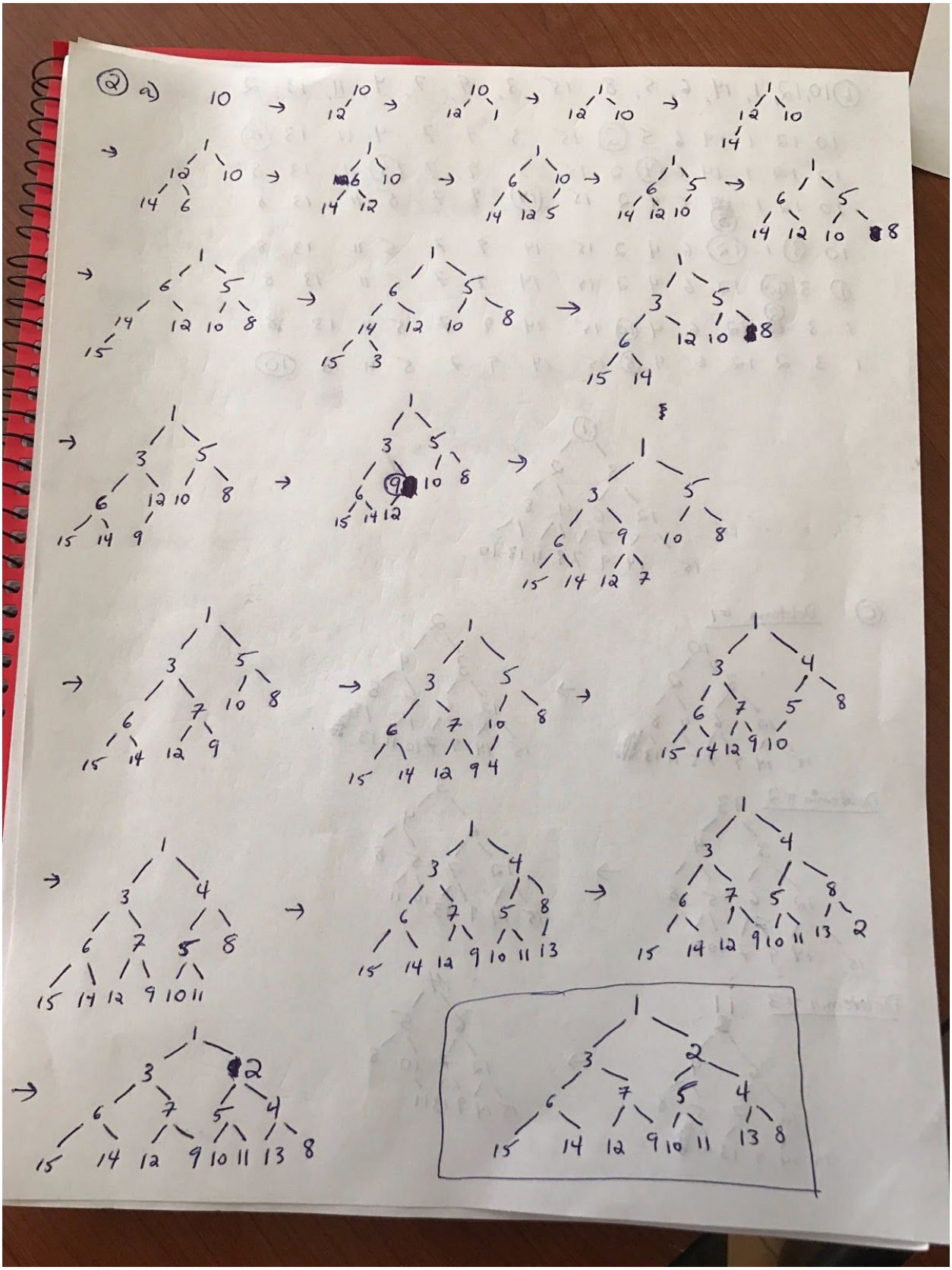
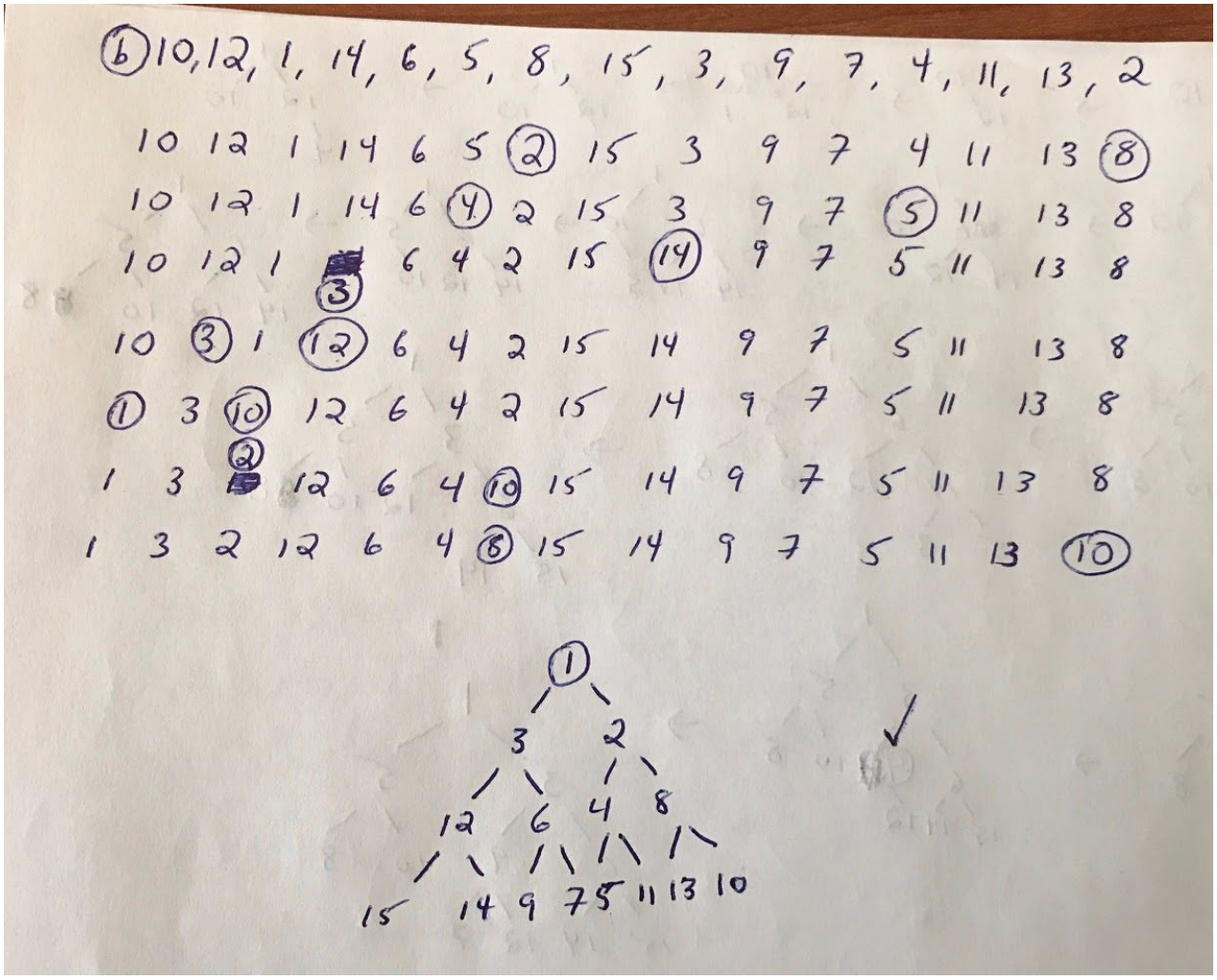
1.


1)
a)
0
1
2
3
4
5
6
7
8
9
71
73
23
44
79
89
99
b)
0 89
1 71
2 99
3 73
4 23
5 44
6
7
8
9 79
c)
0 89
1 71
2
3 73
4 23
5 44
6
7
8 99
9 79
d)
0
1 71
2
3 73
4 44
5 89
6
7 99
8 23
9 79

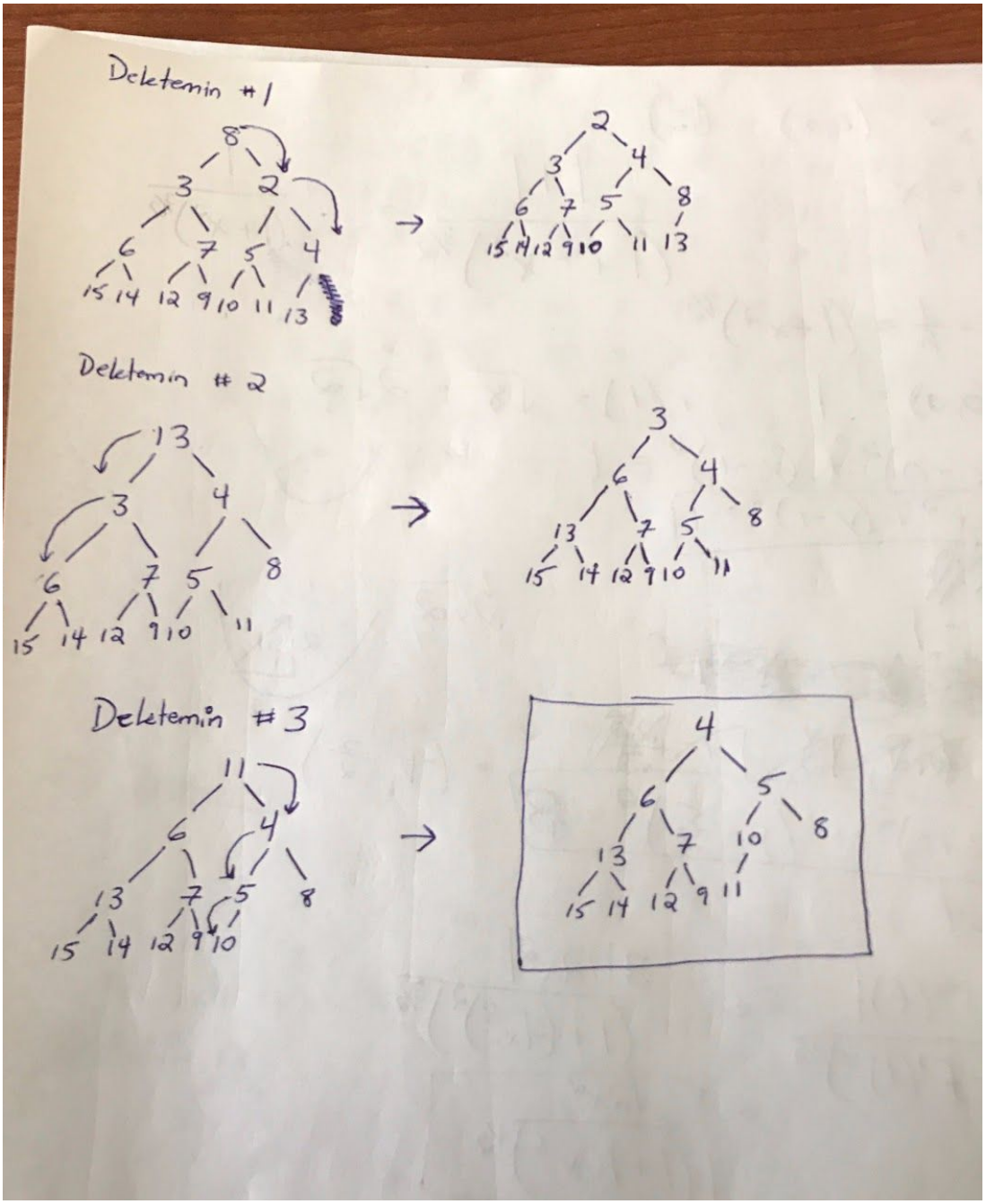
2a.



2b.


(6) 10, 12, 1, 14, 6, 5, 8, 15, 3, 9, 7, 4, 11, 13, 2
10 12 1 14 6 5 (2) 15 3 9 7 4 11 13 (8)
10 12 1 14 6 (4) 2 15 3 9 7 (5) 11 13 8
10 12 1 (3) 6 4 2 15 (14) 9 7 5 11 13 8
10 (3) 1 (12) 6 4 2 15 14 9 7 5 11 13 8
(1) 3 (10) 12 6 4 2 15 14 9 7 5 11 13 8
1 3 (2) 12 6 4 (10) 15 14 9 7 5 11 13 8
1 3 2 12 6 4 (8) 15 14 9 7 5 11 13 (10)
(1)
3 2
12 6 4 8
15 14 9 7 5 11 13 10

2c.



3.
The parent of any node is at index i of a “d-ary” tree is found at ((i-2)/d)+1

The children of ant node at index i are the nodes found from d(i-1) + 1 through d(i-1) + d.
This could also be represented as d(i-1)+x where 1<=x<=d

4.