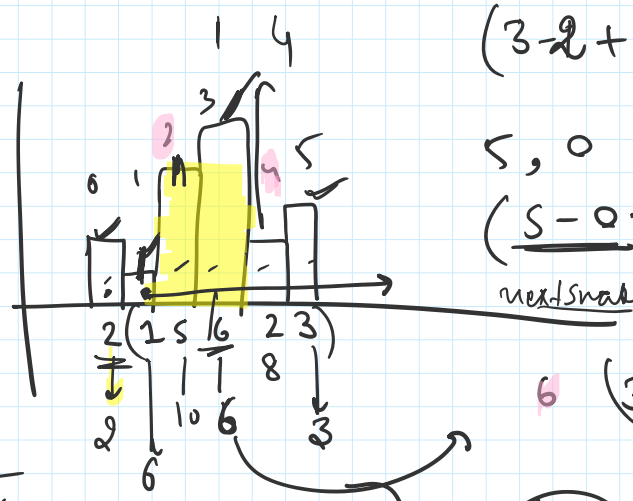
Stack Ques , Trees

01 April 2018 10:38



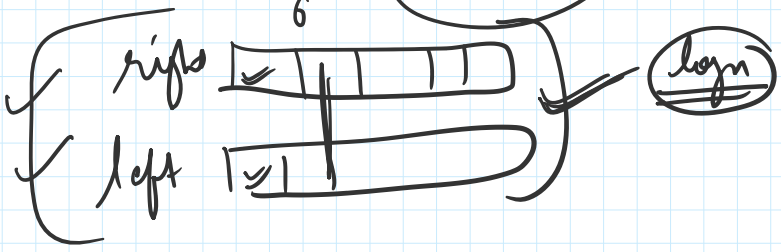
$(3-2+1)*5=10$

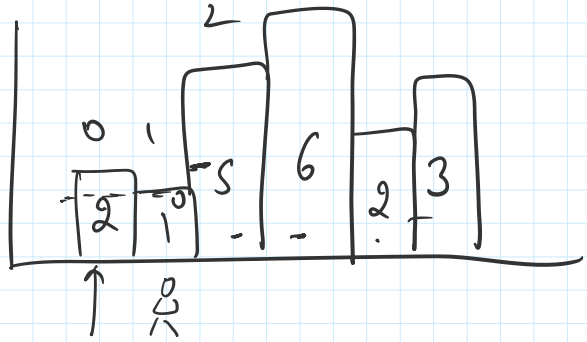
5, 0

$(5-0+1)*1=6$

nextSmaller

6 $(3-3+1)*6 = 6$





2 → 2

6

1, 0

$2*(1-0)=2$

$6*(4-3)=6$

$5*(4-2)=10$

$3*(6-5)=3$

$2*(6-2)=8$

$1*(6-0)=6$

Stock span

0	1	2	3	4	5	6
100	80	60	70	60	75	85
↓		↓		↓		

100 80 60 70 60 75 85

1 1 1 2 1 4 5

```
for (i: 0 to n)
    cur = arr[i];
    while ( s.top() < cur) {
        s.pop();
    }
    ans[i] = (i - s.top());
    s.push (cur, i);
}
```

∞, -1 =

---

0 1 2 3 4 5 6 7 8 9 10 11

0 1 0 2 1 0 1 3 2 1 2 1

0 0 1 0 2 2 2 0 3 3 3 3

3 3 3 3 3 3 3 3 0 2 0 0

0
9

Stock-span

0 1 2 3 4 5

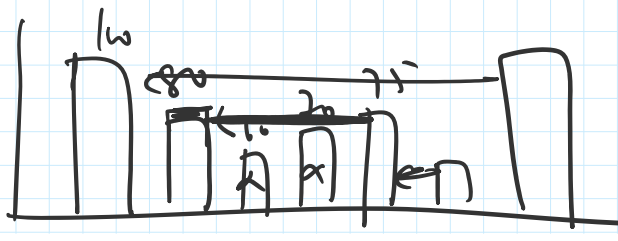
∞ | 100 | 80 | 60 | 70 | 60 | 75 | 85

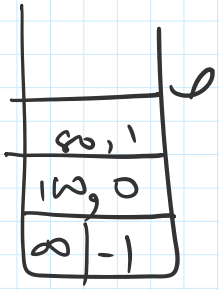
1 1 1 2 1 4 6

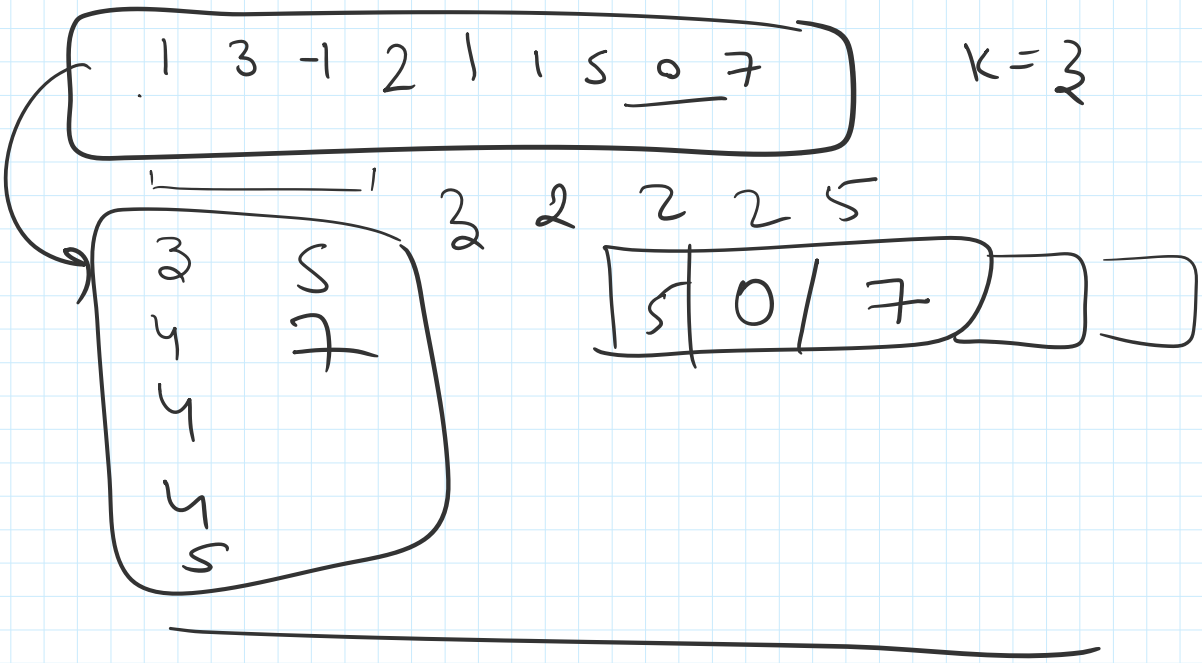
∞ | 100 | 80 | 60 | 70 | ~~60~~ ~~80~~ 75

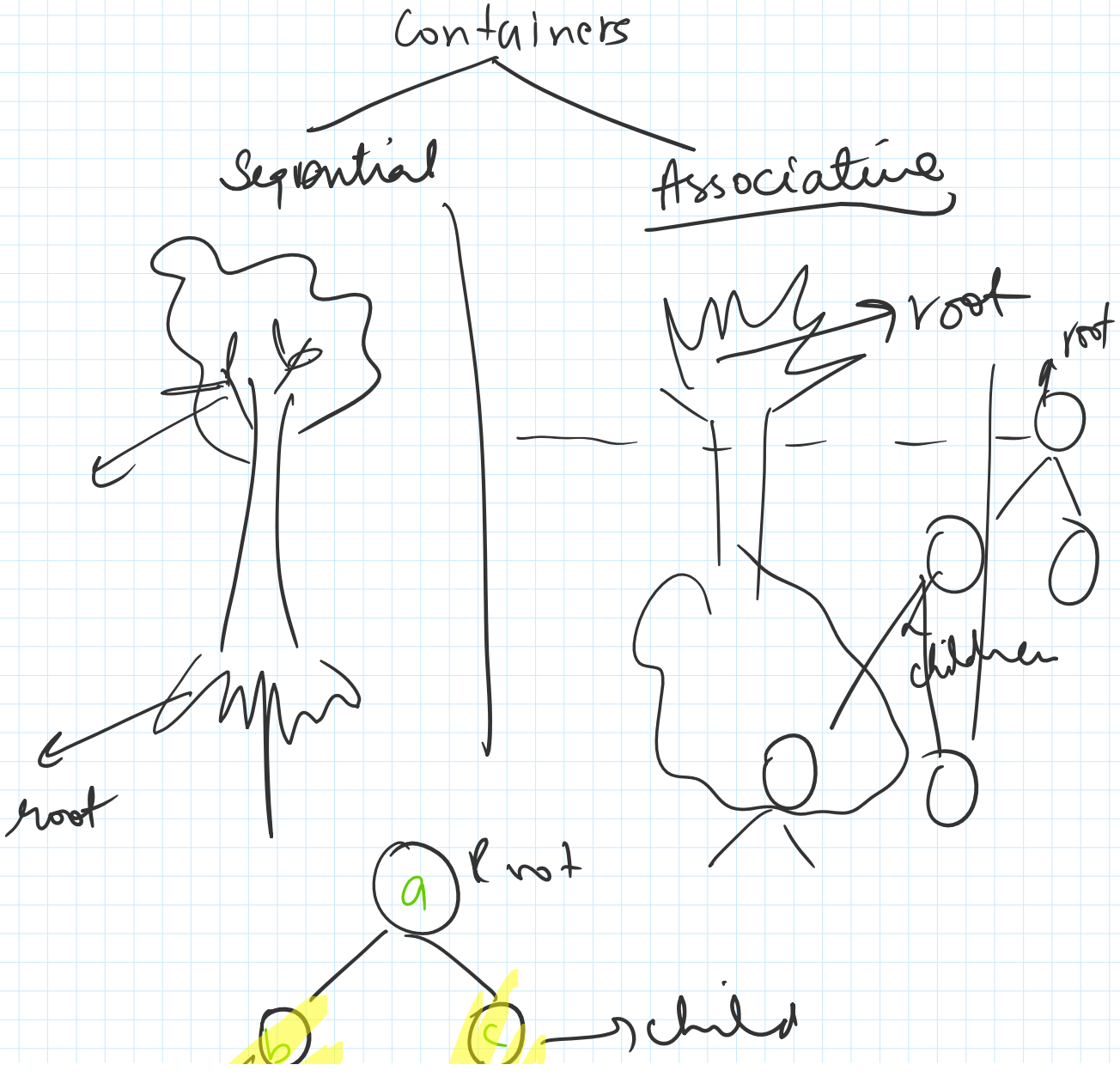
Cntr = 2

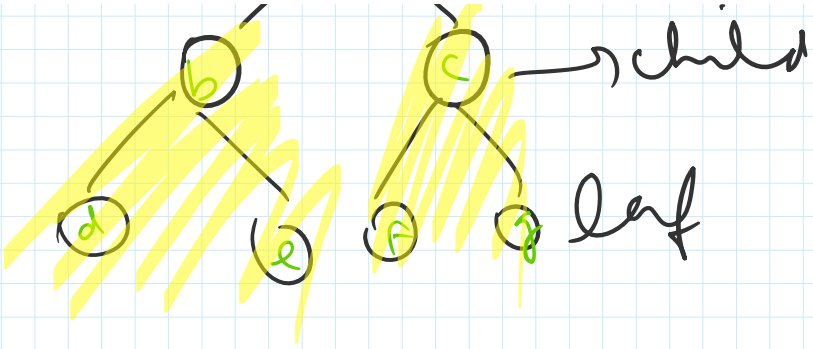
4-1

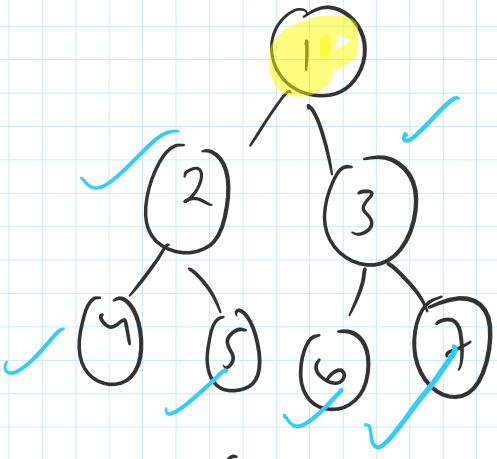




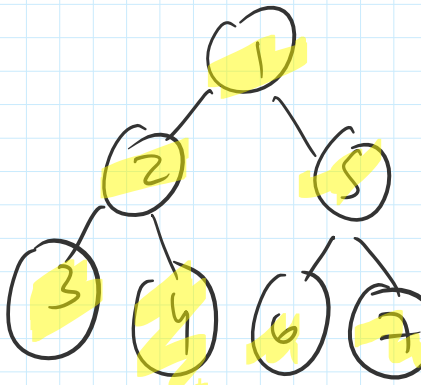

1 3 -1 2 1 1 5 0 7
K=3
3 2 2 2 5
3 5
4 7
4
4
5
5 0 7


Containers
Sequential
Associative
root
root
root
children
a
root
b
c
child

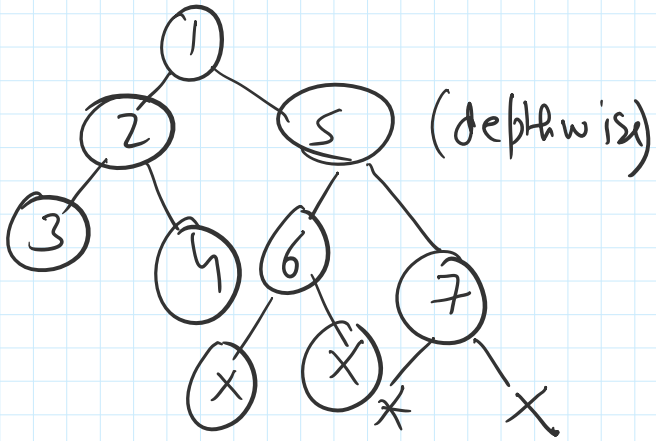




BFS
Breadth first search.
(levelwise)



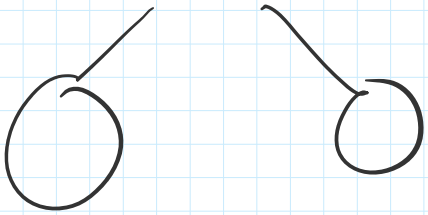
DFS
depth first search

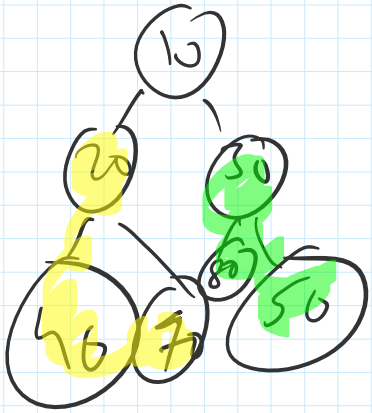


(depthwise)

x

root = x





level

preorder
— left right root 40 70 20 80 50 30 10

inorder
— left root right 40 20 70 10 80 30 50

postorder

postorder

- root left right 10 20 40 70 30 80 50