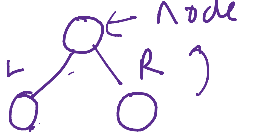
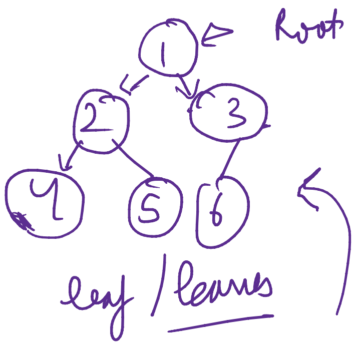
10-Jan- 2022 (Revision of Sept Batch)

10 January 2022 18:55

Binary Tree:-





Size()

height:

find

find path

delete()

update

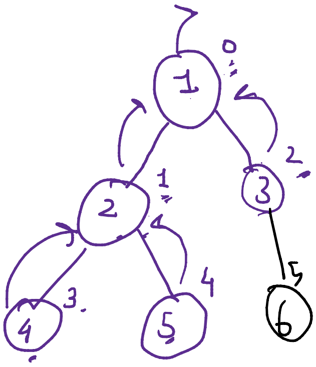
[1, 2, 3, 4, 5, -1, 6]

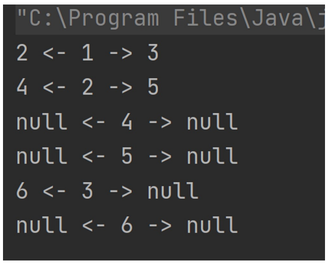
0 1 2 3 4 5 6

i = ~~0~~ 2

$l_i = 2 \times i + 1 : \cancel{1}\ \cancel{3}\ 7$

$r_i = 2 \times i + 2 : 4$

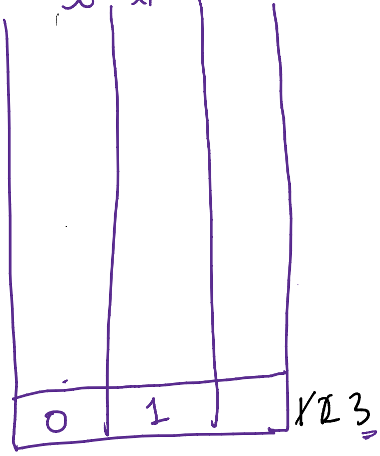




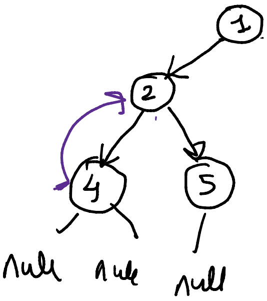
```
"C:\Program Files\Java\j
2 <- 1 -> 3
4 <- 2 -> 5
null <- 4 -> null
null <- 5 -> null
6 <- 3 -> null
null <- 6 -> null
```

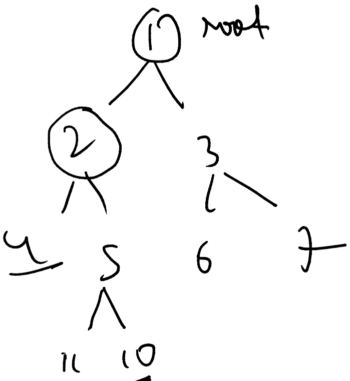
[1, 2, 3, 4, 5, 6, 7]

i li ri



```
Node construct(arr, i){
1    if(i >= arr.length) return null;
2       n = Node(arr[i]);
        li = 2*i +1;
3    [  n.left = construct(arr, li);
        ri = 2*i + 2;
4    [  n.right = construct(arr, ri);
     return n;
}
```





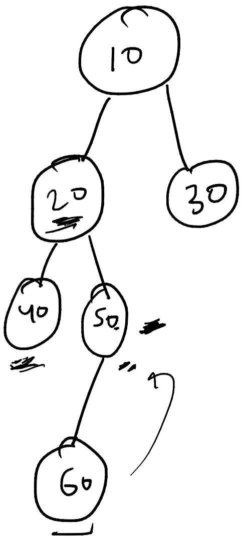
static Node ans = null

Nothing found

LCA(root, d1, d2){

11 10

0 - Nothing found
1 - One node was found
2 - Both nodes

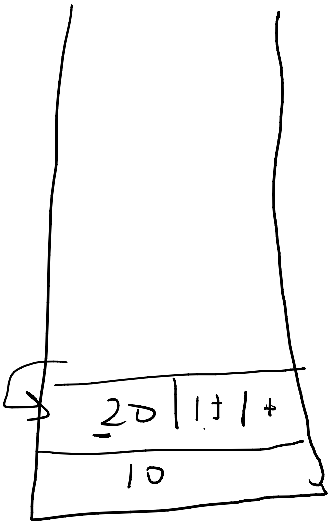


ans = 20

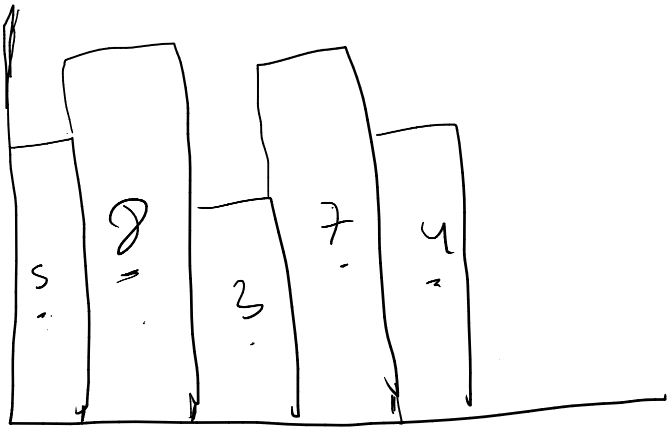
res = ~~0~~ 1 2

```
int   CAH (root, d1, d2) {
                                   40 60
    res = 0;
    l = CAM(root.left, d1,d2)
    if(l == 2) return 2;
    r = CAM (root.right, d1,d2)
    if (r == 2) return 2;

    if (root.data == d1) res++;
    if (root.data == d2) res++;
    if (res == 2) {
        ans = root;
    }
}
return res;..
```



x



0	1	2	3	4
1	2	1	2	1

Left greater Eles