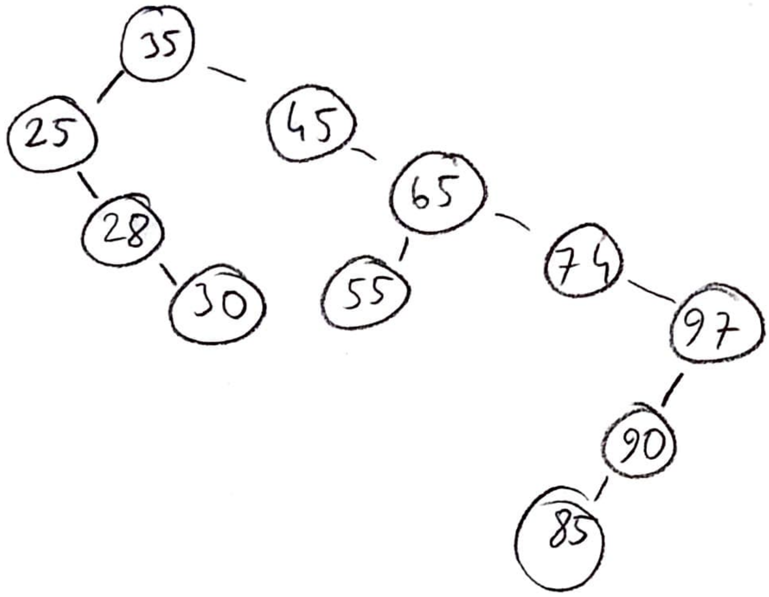
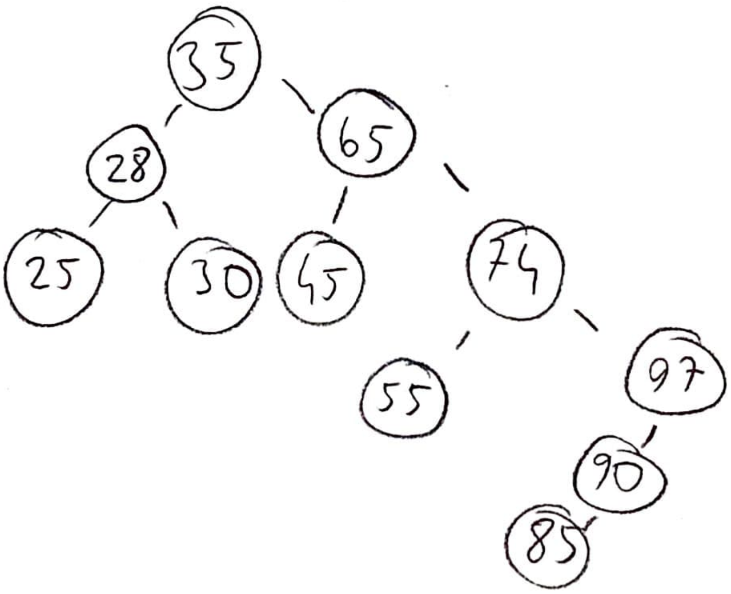
Zahid Esad ÇAKICI 150 190006

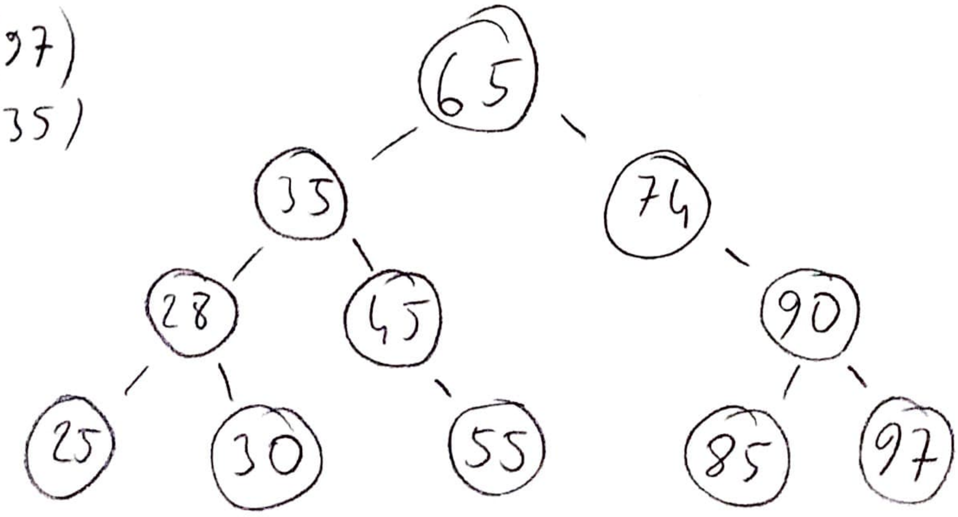
1) LR(85)
LR(65)
RR(30)



LR(45)
LR(25)



RR(97)
LR(35)



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(2) Red-Black Tree is a BTS that can balance its order and it has a complexity regardless of whether its case is best or worst. Standart BTS can have very long chains at the worst case while RBT rebalances itself in every insertion step so it chains dont get any further.

(3) For the insertion in RBT it takes O(1) time for each iteration and every iteration is either the last one or it moves 2 up 2 level and there are at most 2 rotations at each. Therefore the best case, the worst case and average are all same O(logn). For the search operation the worst case is to Search through chain. O(h) where h is the hight of the tree so it is O(logn). The averag search case is also O(logn)

4 In this case I would implement 5 methods that return the ith corresponding genre game, with similar implementations

Eg : Action

```
Action finder (root , x )
        int i = 0;
        While i < x ;

            root.
```