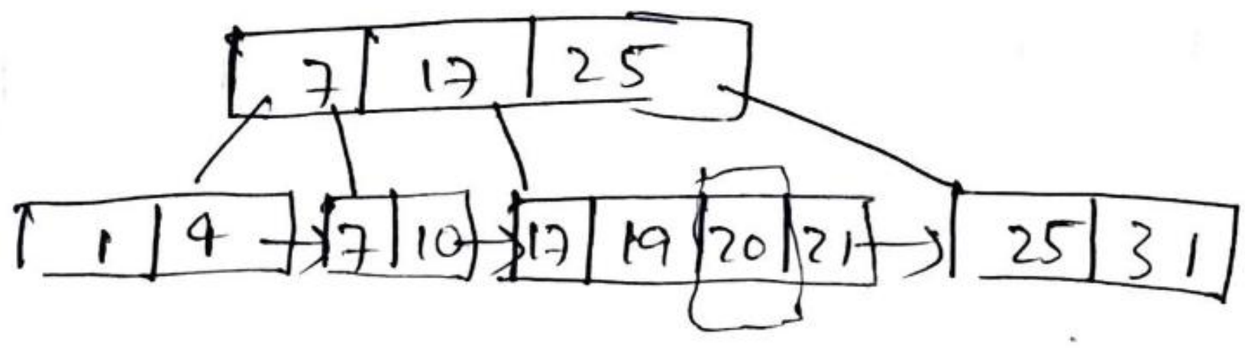
Set C

(1) True

The B+-tree being a variation of B-tree allows rapid random access. In a B+ tree the leaves are linked together, so it also provides rapid sequential access

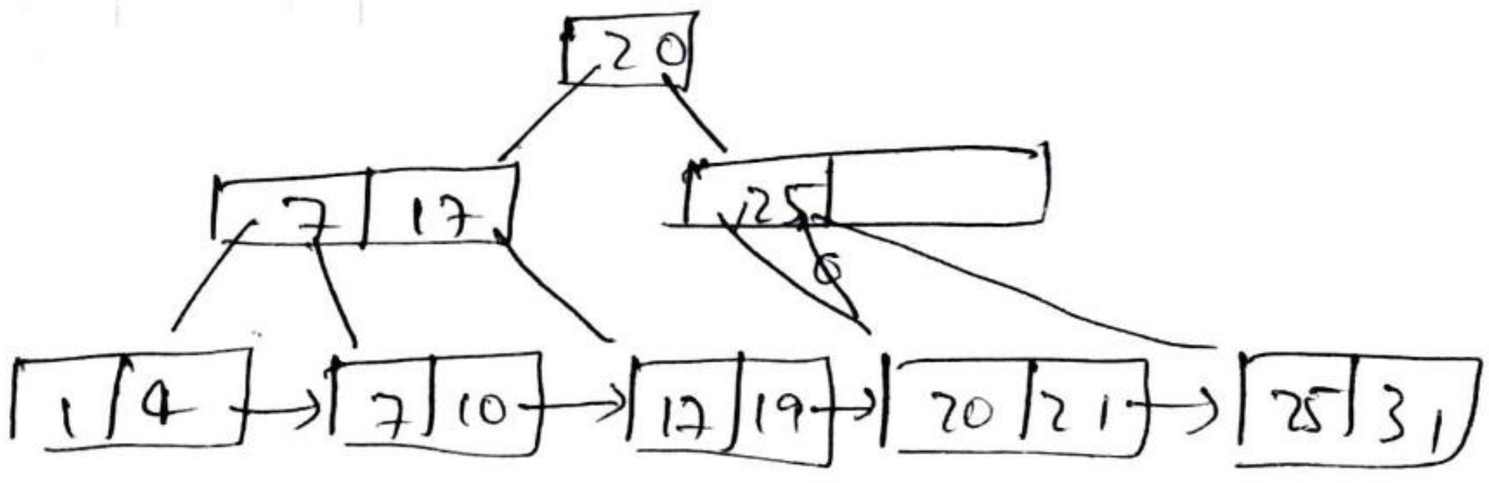
(2) D. Both I and II are false

(3) Case 1: while inserting new element into the corresponding key having max keys, of the current one, and its parent. In that case height of tree increased by 1

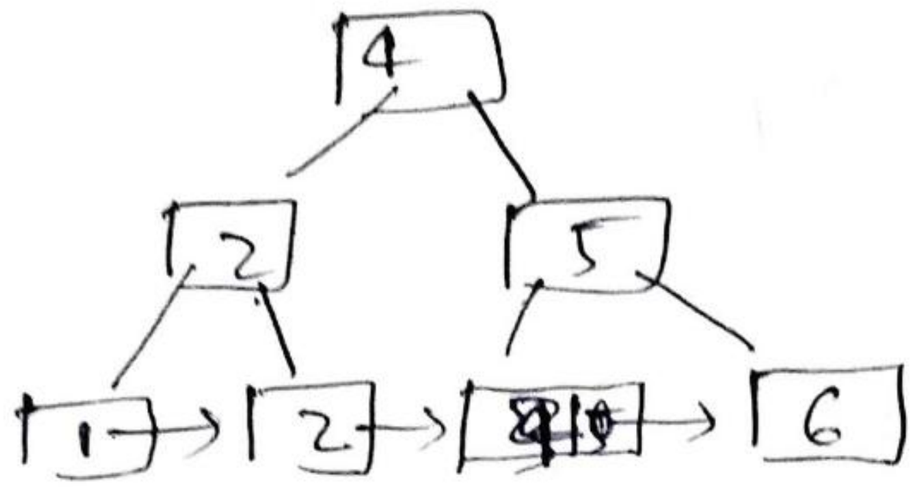


20 is insertion of max keys - 3

In that case, it need to split



Case 2: when we get underflow condition in the nodes, then parent also doesn't contribute in that case height of tree decreases



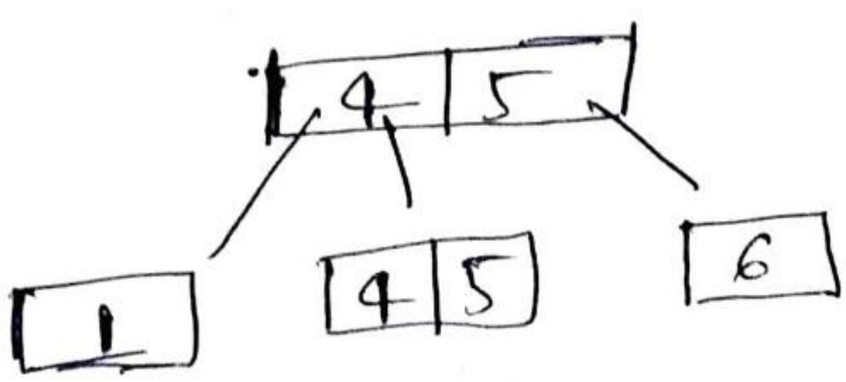
h = 0

h = 1

h = 2

deleting 2; since it has less than min number of keys (i.e, 1) it has to be merged with rightsubtree

Now set the min value in merged subtree(make it root, then



h = 0

h = 1

(The highest has decreased by 1)