

CS2 101 5-28-26

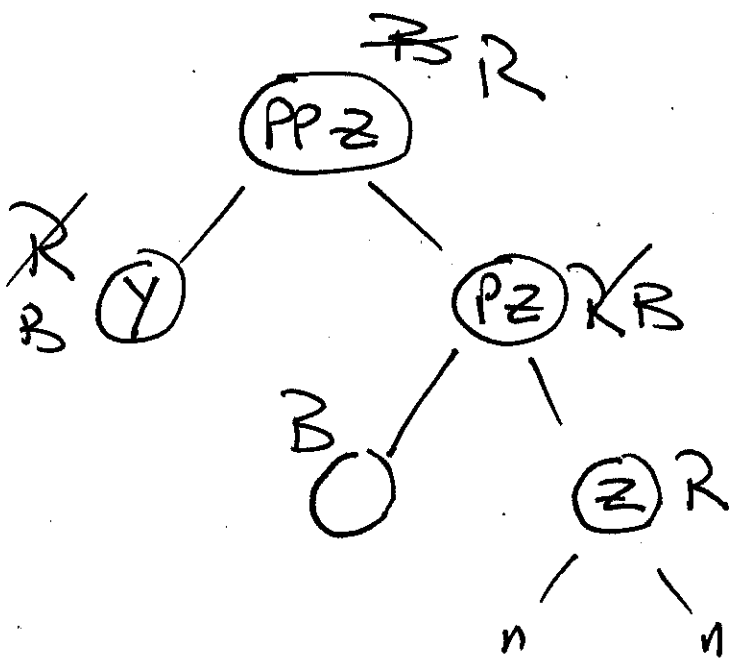
11

-
- Pat: ext. 1 last day to Sat. (last)
 - Pass: ext. 1 day

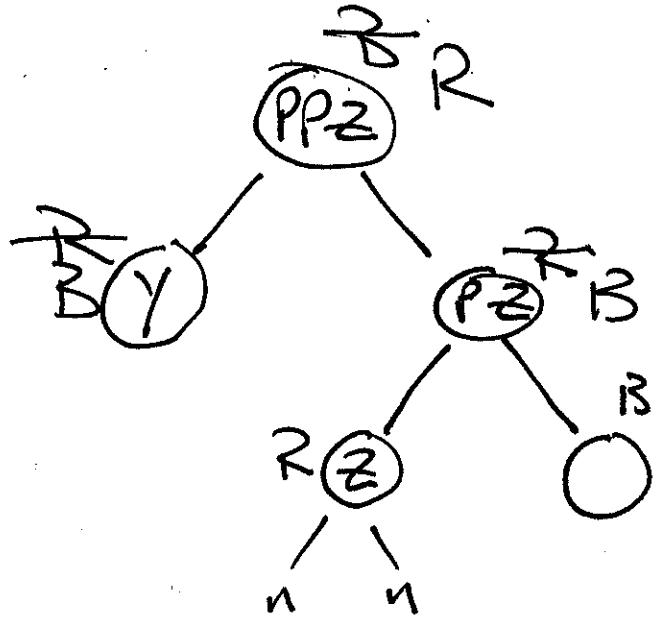
RB-InsertFixUP(T, z)

- y is the uncle of z

Case 4 y. color is Red



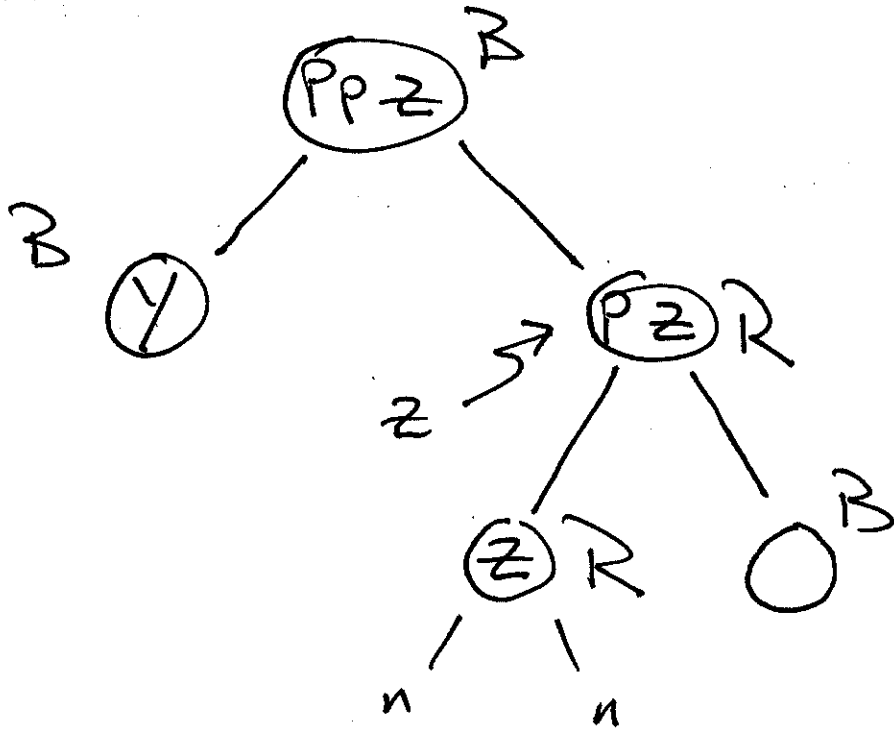
or



Fix color relationships, let z climb up to PPz

Case 5: y is Black

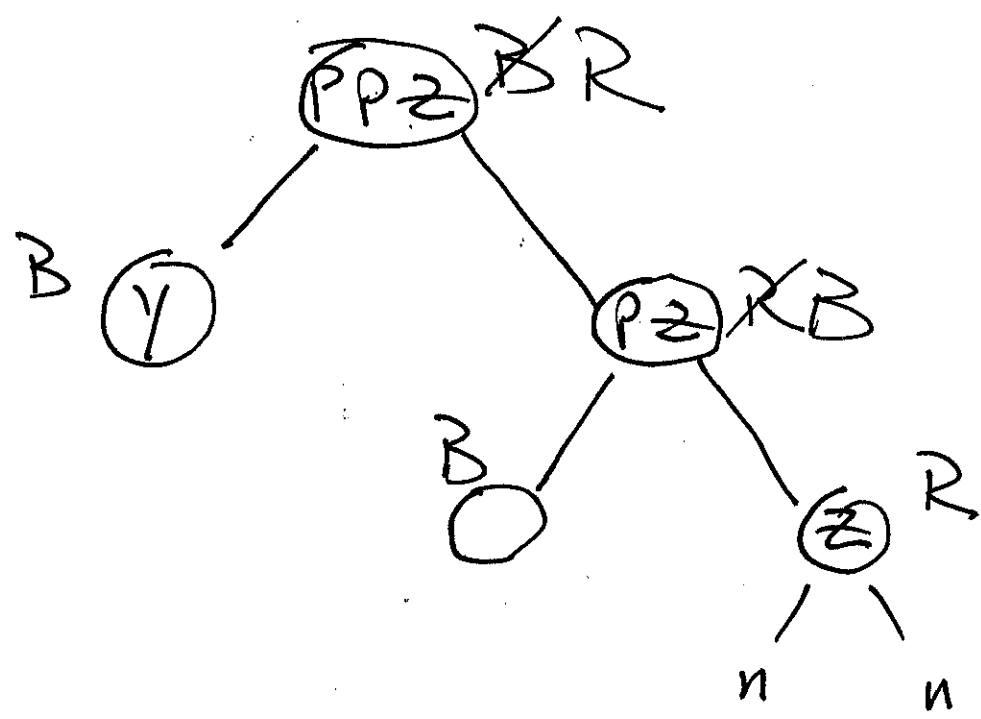
z is pz's left child



convert to case 6: let z climb's
up to Pz, then right rotate
about z

Case 6: y is Black

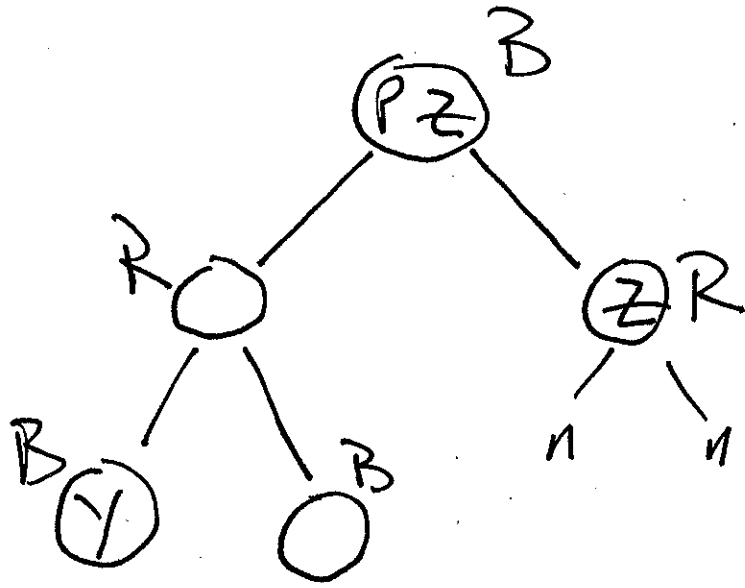
z is Pz's right child



color Pz Black, color PPz Red

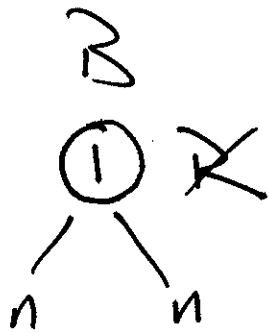
then left rotate about PPz

to get

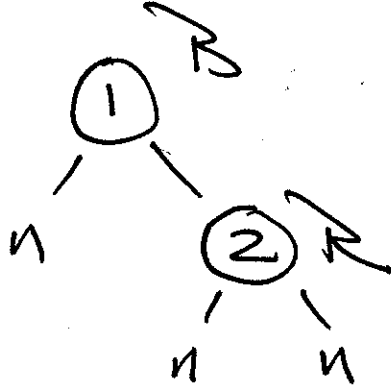


Ex. Insert 1, 2, 3, 4, 5 in order
 in an initially empty RB

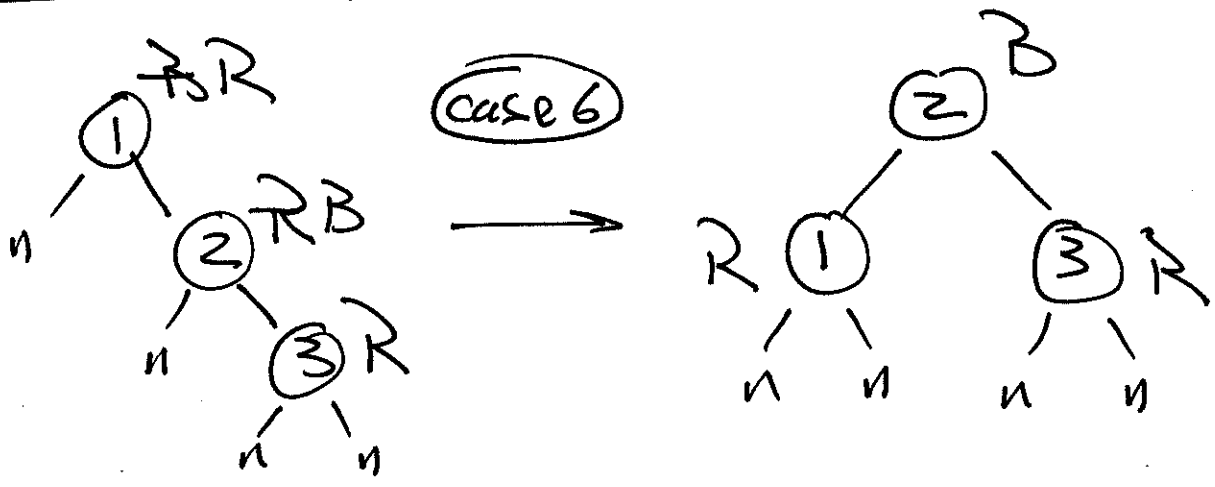
Insert 1



Insert 2

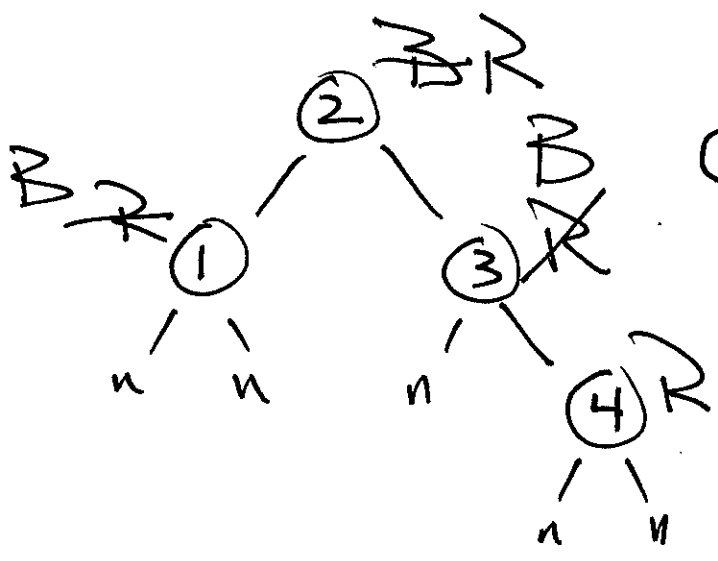


Insert 3

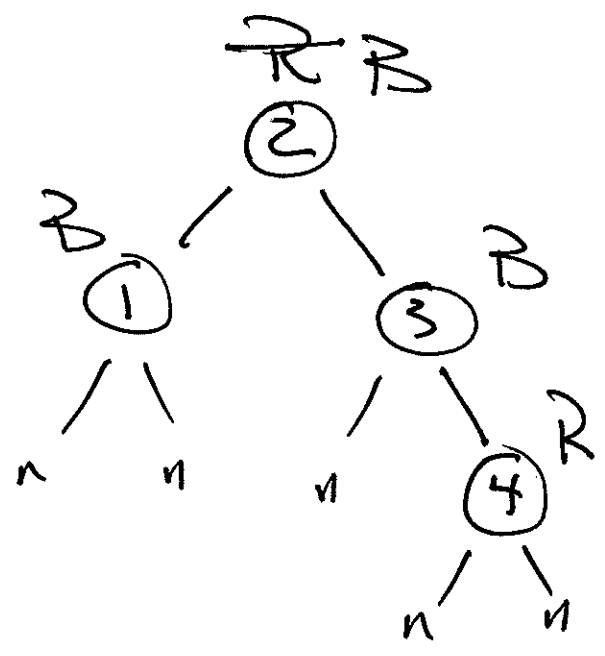




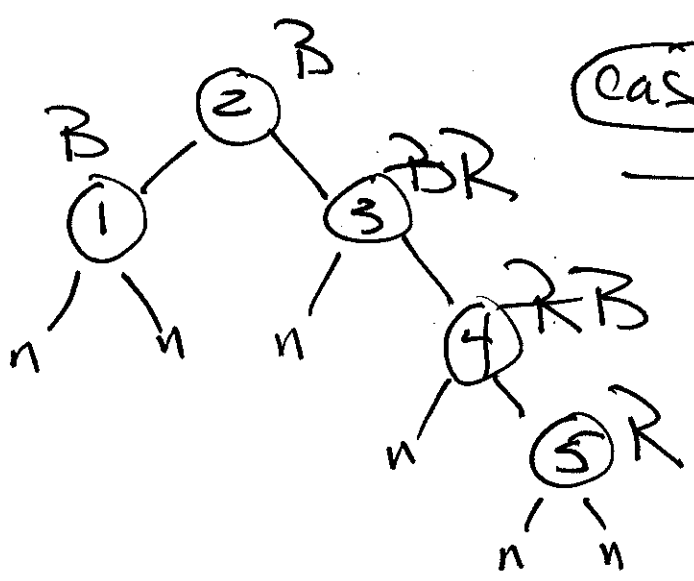
Insert 4



Case 4



Insert 5



Case 6

