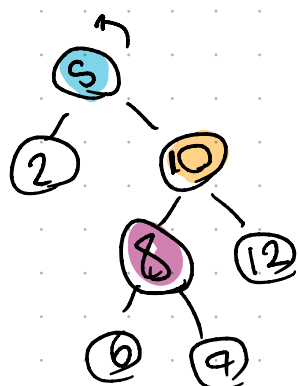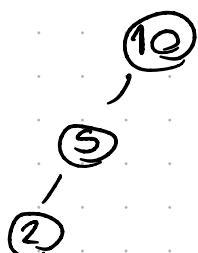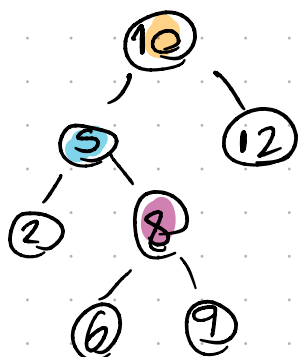# lett - Rotation

- S hight child becomes parent

- Para left child turns new Right child of S / rooter
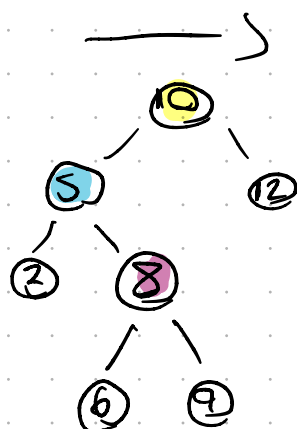
Right rotatio to 10

- root left child (U) becomes to's root parent
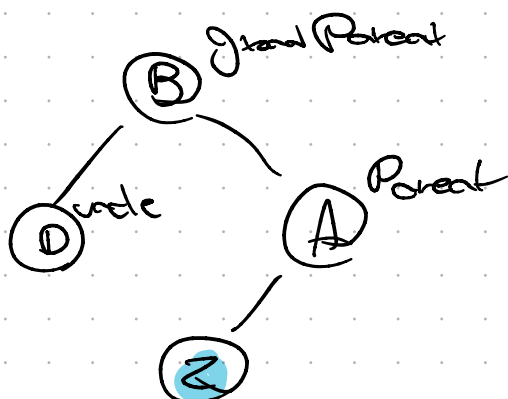
- S hight child becomes 10 News child

Insertion
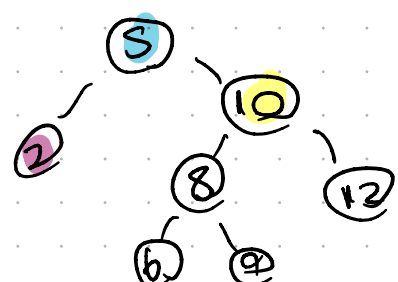
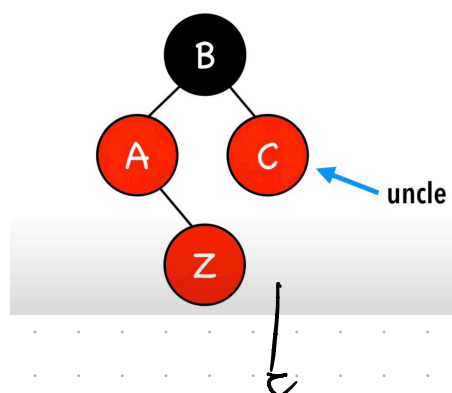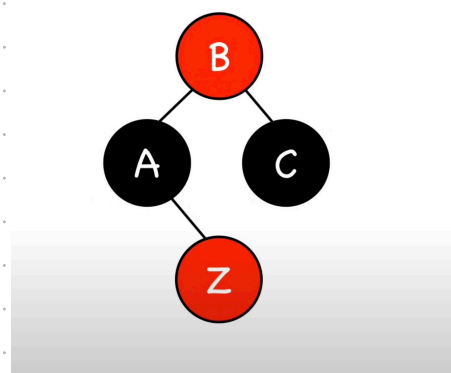## Properties

1. A Node is either Red or ✗ Block

2. the root and leaves (NIL) ✓ are block

3. if a Node is Red, then its Children are block

4. All path from a node to its NIL descendents contain the same Number of Block Nodes

Insert

1. Insert Z and color Red

2. Recolor and rotate None to fix Violatos

- 4 scenarios

  - 0 - Z = root
  - 1 - Z.uncle = red
    2 - Z.uncle = black (triangle)
    Z.uncle = Block (line)

---

case 1 : Z.uncle = red

← uncle

case 1 : Z.uncle = red