

# 7

Red-black tree

def insert (k)

while k.parent.color == 1

if k.parent == k.parent.parent.right

u = k.parent.parent.left

if u.color == 1:

u.color = 0

k.parent.color = 0

k.parent.parent.color = 1

k = k.parent.parent

else

if k == k.parent.left

k = k.parent

self.right-rotate (k)

k.parent.color = 0

k.parent.parent.color = 1

left-rotate (k.parent.parent)

else

u = k.parent.parent

if u.color == 1:

u.color = 0

k.parent.color = 1

k = k.parent.parent

else

if k == k.parent.right

k = k.parent

left-rotate (k)

k . parent . color = 0

k → p → p → c = 1

right - rot (k → p → p)

if (k == root):

break

root → color = 0