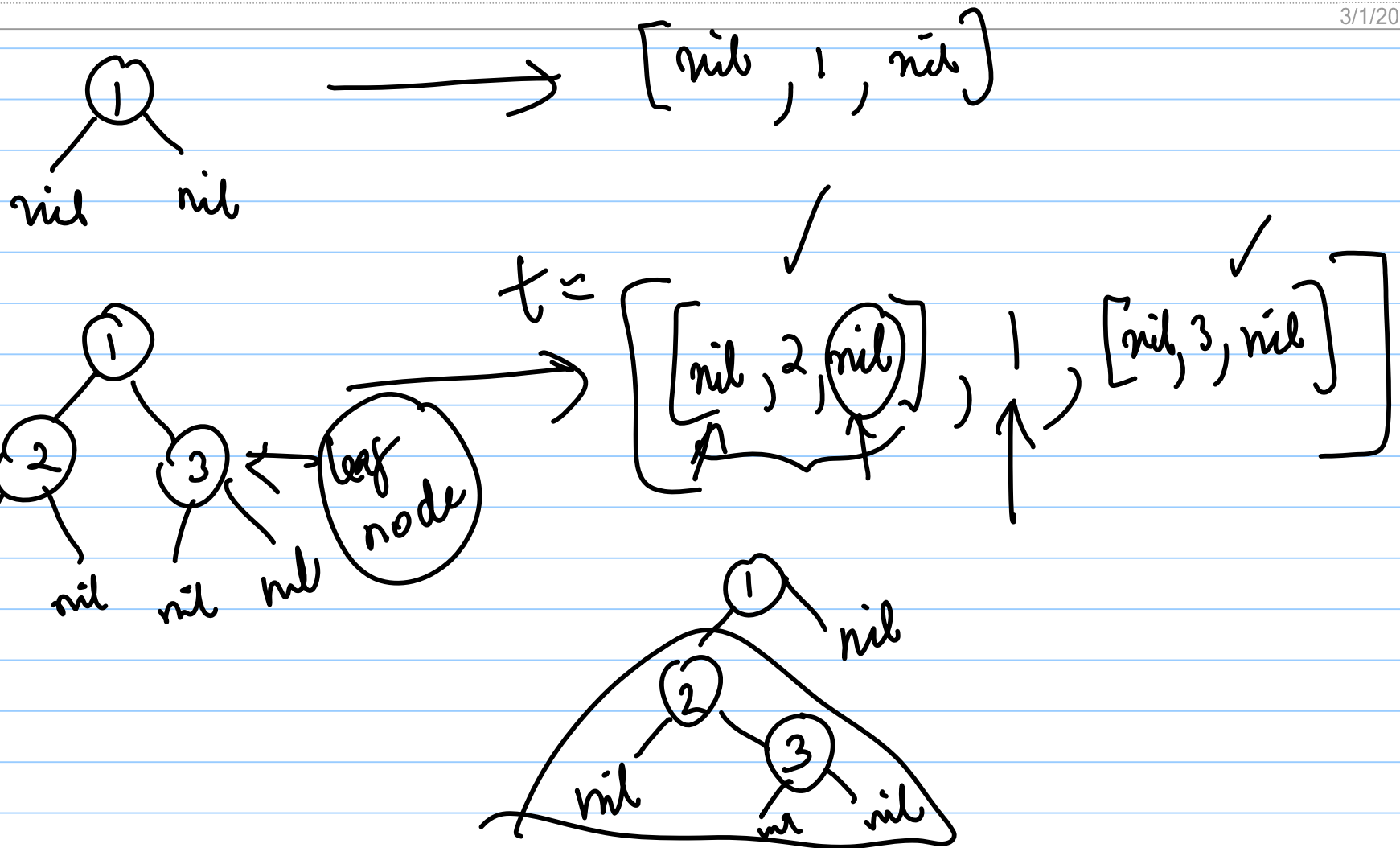
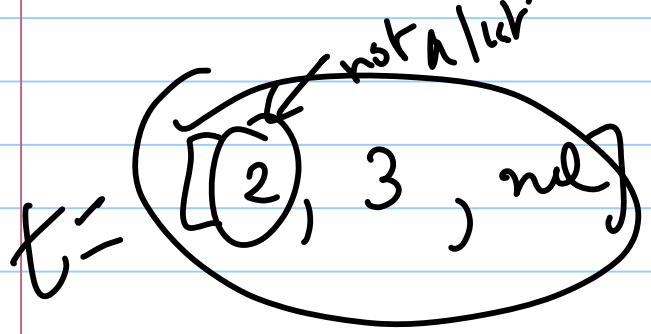
Note Title 3/1/2013



[[nil, 2, [nil, 3, nil]], nil]



→ is_tree? ND

t = [nil, 2, nil]

t[0] t[2]

is_btree(t)

true

t[0] and t[2] and is_btree(t[0]) and is_btree(t[2])

any? any?

true

nil

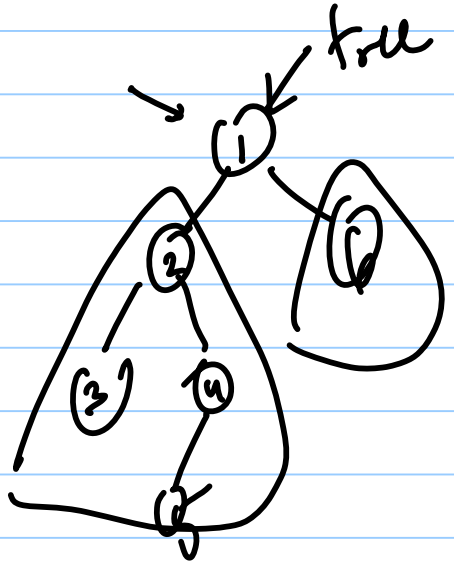
true

def sum(n)

if n=0 return 0

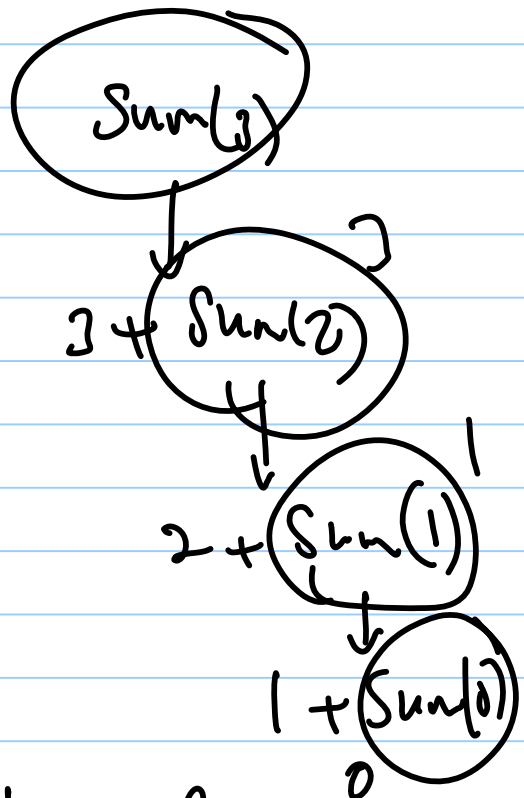
else return n + sum(n-1)

$1+2+\cdots n$



count(tree) = 0 tree = ∅

= 1 + count(tree_L) + count(tree_R)



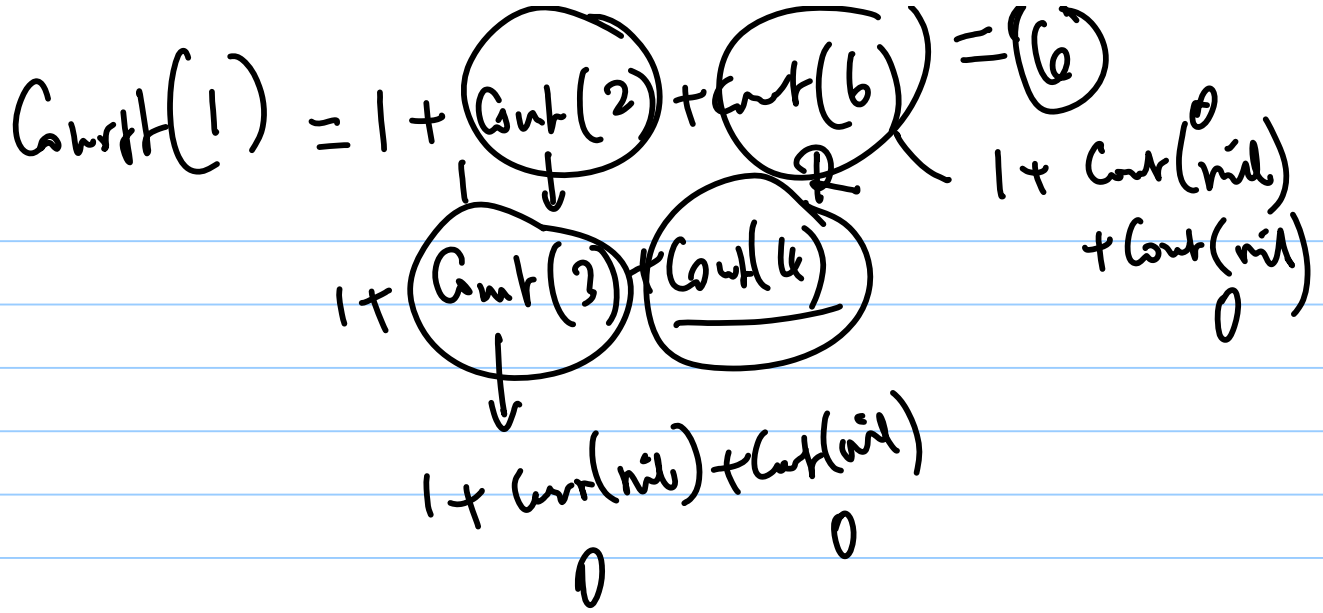
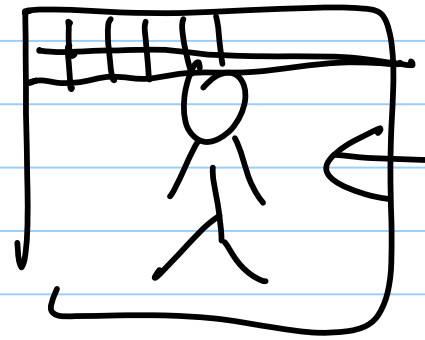

Count(1) = 1 + Count(2) + Count(6) = 6
1 + Count(nil) + Count(nil)
0 0
1
1 + Count(3) + Count(4)
2
1 + Count(nil) + Count(nil)
0 0

Image | Sound



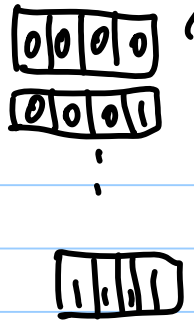
mxn

How many Colors in 24-bits?

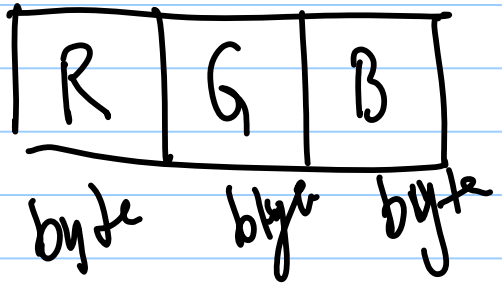
bitmap
Color

24-bit → 2^{24} Colors

$= (2^{20})(2^4) =$ 16 million Colors



mxn pixels



aaaa...a → 00000000

64 bytes

1 byte

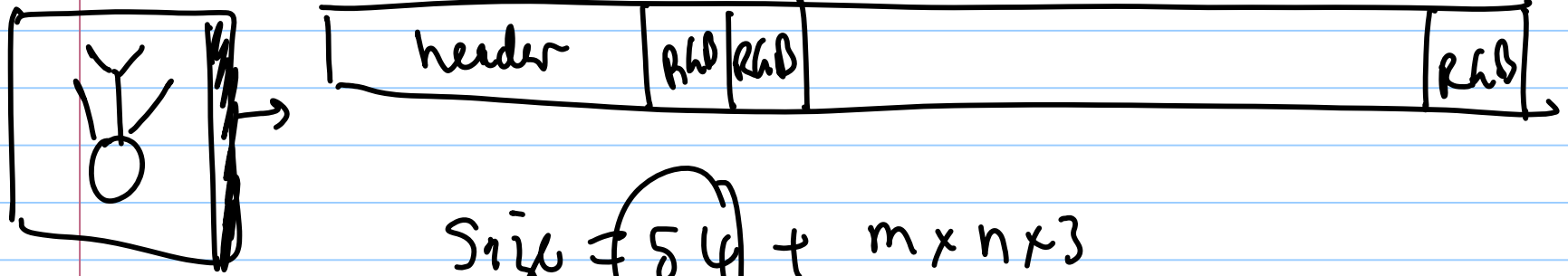
abcabc...

a = 5

b = 2

z = 21

BMP



$$Size = 54 + m \times n \times 3$$