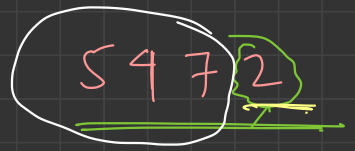
String to Integer

"1234" → 1234

String → int

input would be given so that valid int can be made



last digit → '2' ⇒ 2

2

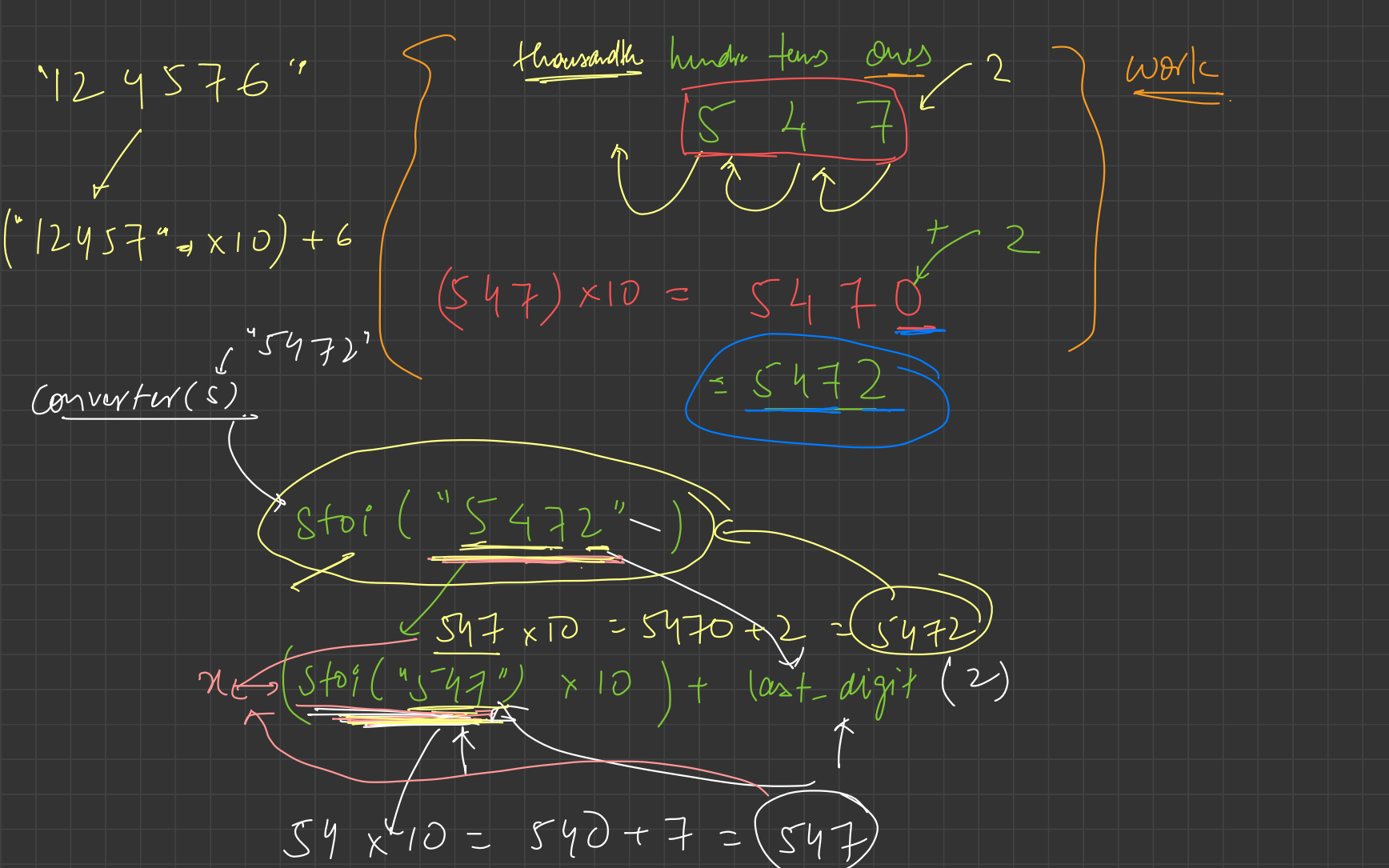
"5472" → original problem

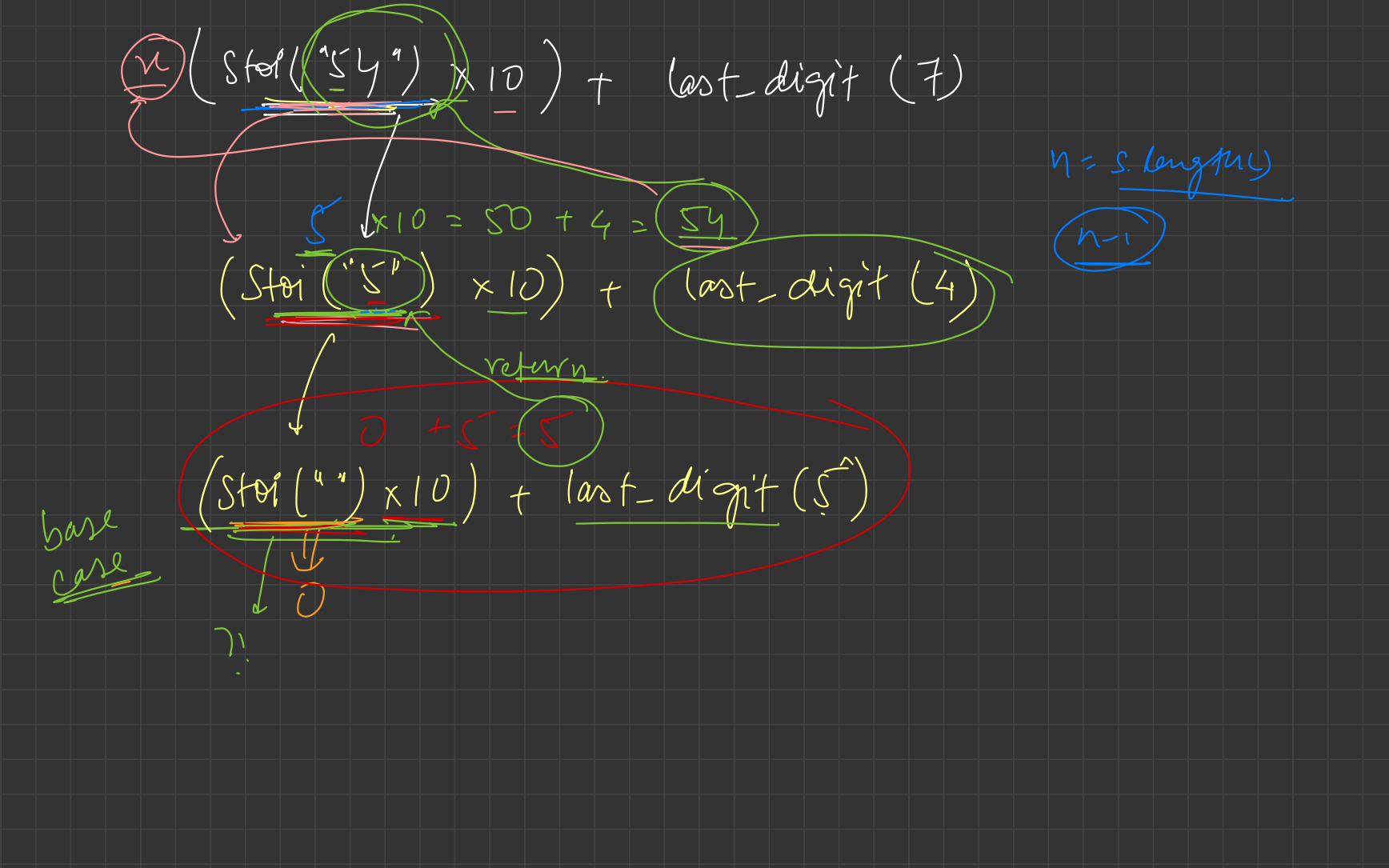
sub problem "547"

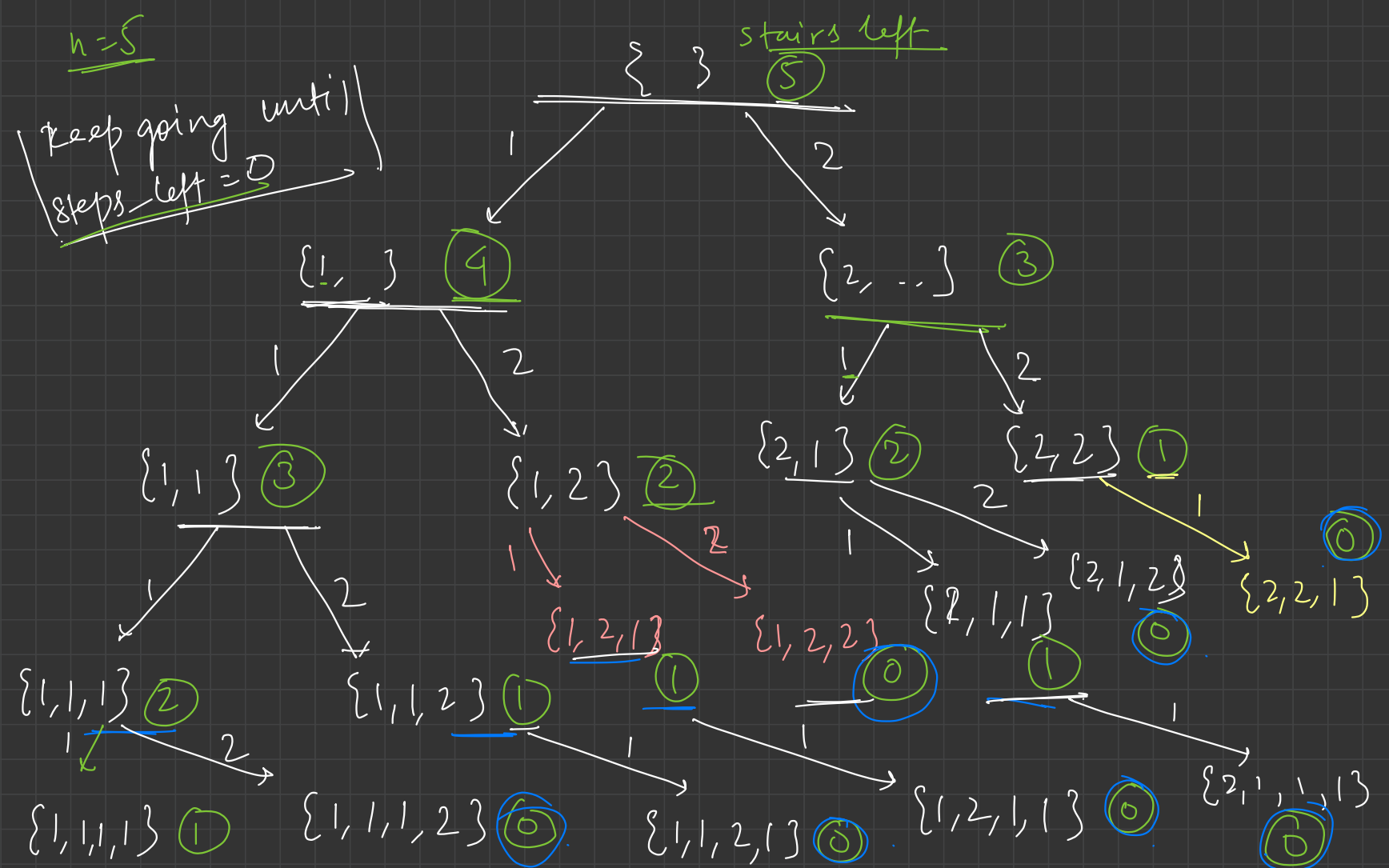
"2"

converted to int ⇒ 547 recursively

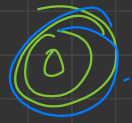
i want to place two at one's place


"12457"
("1245" x10) + 6
thousandth hundred tens ones
5 4 7
2
work
(547) x10 = 5470
+ 2
= 5472
"5472"
converter(s)
stoi("5472")
547 x10 = 5470 + 2 = 5472
stoi("547") x10) + last_digit (2)
54 x10 = 540 + 7 = 547


n
(stoi("54") x10) + last_digit(7)
n = s.length()
n-1
5 x10 = 50 + 4 = 54
(stoi("5") x10) + last_digit(4)
return
0 + 5 = 5
(stoi("") x10) + last_digit(5)
base case
0
?!


n = 5
stairs left
keep going until
steps_left = 0
{ }
5
1
2
{1, }
4
{2, ..}
3
{1,1}
3
{1,2}
2
{2,1}
2
{2,2}
1
{1,1,1}
2
{1,1,2}
1
{1,2,1}
1
{1,2,2}
0
{2,1,1}
1
{2,1,2}
0
{2,2,1}
0
{1,1,1,1}
1
{1,1,1,2}
0
{1,1,2,1}
0
{1,2,1,1}
0
{2,1,1,1}
0

{1, 1, 1, 1, 1}



8 paths

{1, 1, 1, 1, 1}

{1, 1, 1, 2}

{1, 1, 2, 1}

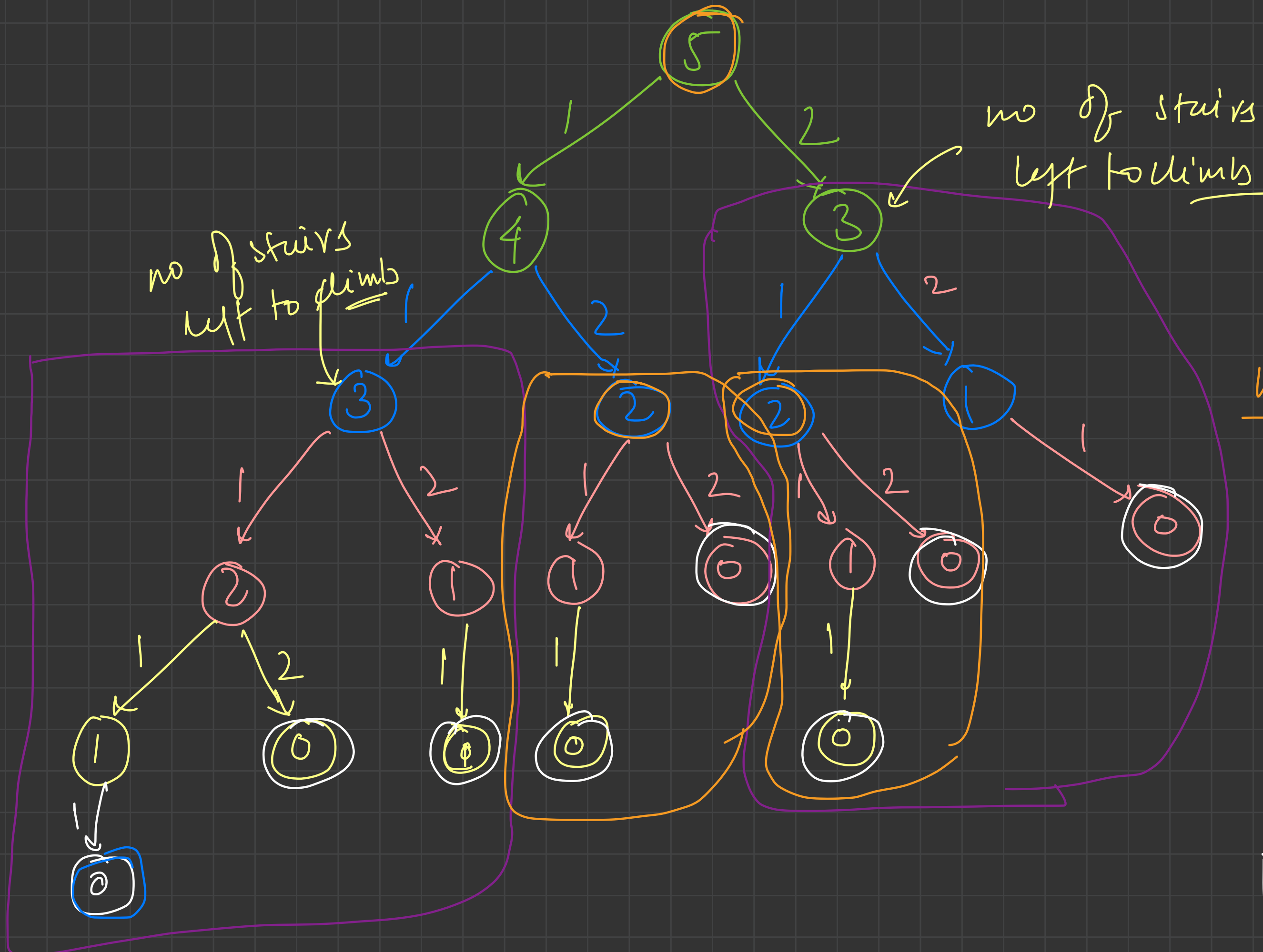
{1, 2, 1, 1}

{1, 2, 2}

{2, 1, 1, 1}

{2, 1, 2}

{2, 2, 1}



n	ways
1	1
2	2
3	3
4	5
5	8
6	13