Count A+B+C+ Subsequence

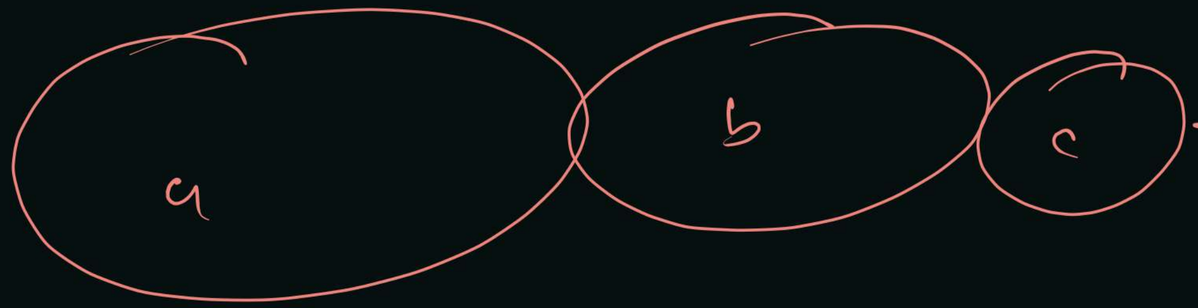
Tuesday, 29 June 2021 7:56 PM

String → "abcabc" (character → a, b, c)

from all the subseq → count which are of type a+b+C+ subseq.

$a^i b^j c^k$ type subseq.

where $\{i, j, k\} > 0$



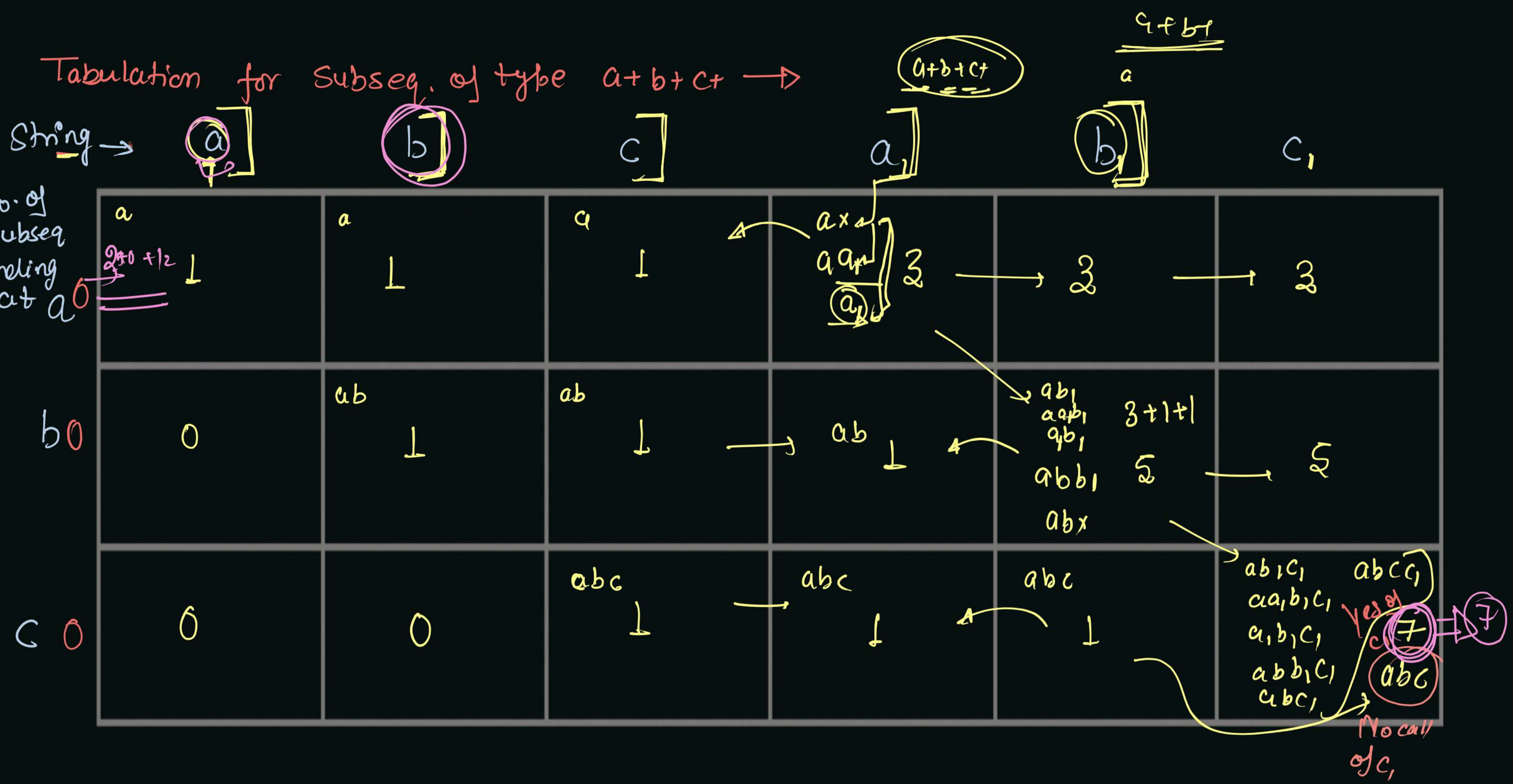
aabcc $a^2b^1c^2$ $a^i b^j c^k$

abbc $a^1b^2c^1$

abbcc $a^1b^2c^2$ $\{i, j, k\} > 0$

a+b+

Tabulation for Subseq. of type a+b+c+ →



a_cont
b_cout
c_cout

	a	b	c
	↓	↓	↓
a	→ 2*acout + 1	x	x
b	X	acout + 2* b_count	x
c	X	X	bcount + 2*

③

a
aa
aaa] count

subseq of type, which is en

a y]
a
a
aa
aaa] count

aa
aaa
aa aa] count

a ✓]

= 2* count + 1

final Result → c_cout

Ending at c →

aa → _ _
a
a
aa

a] ✓] count ②

③ a+

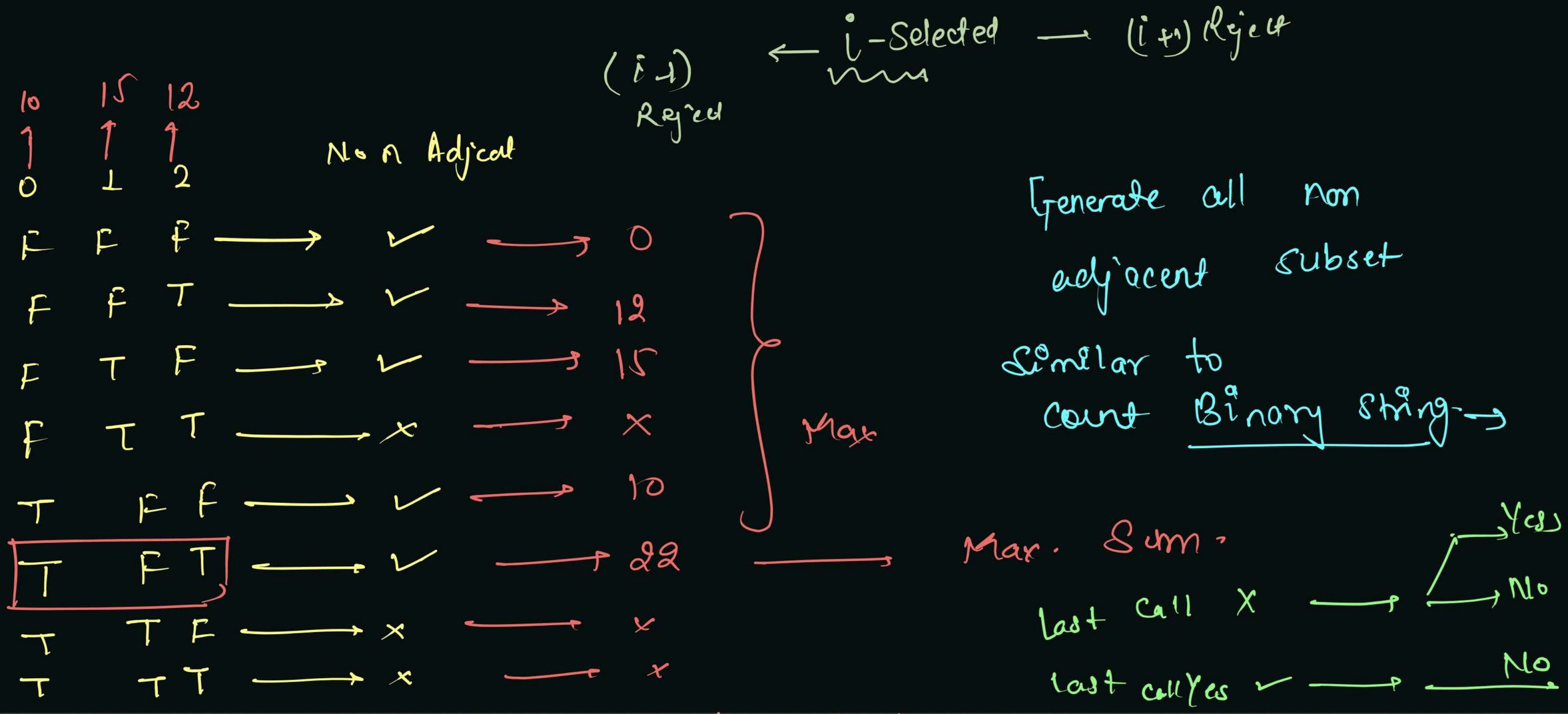
abcabc] form all subseq
a+b+c+

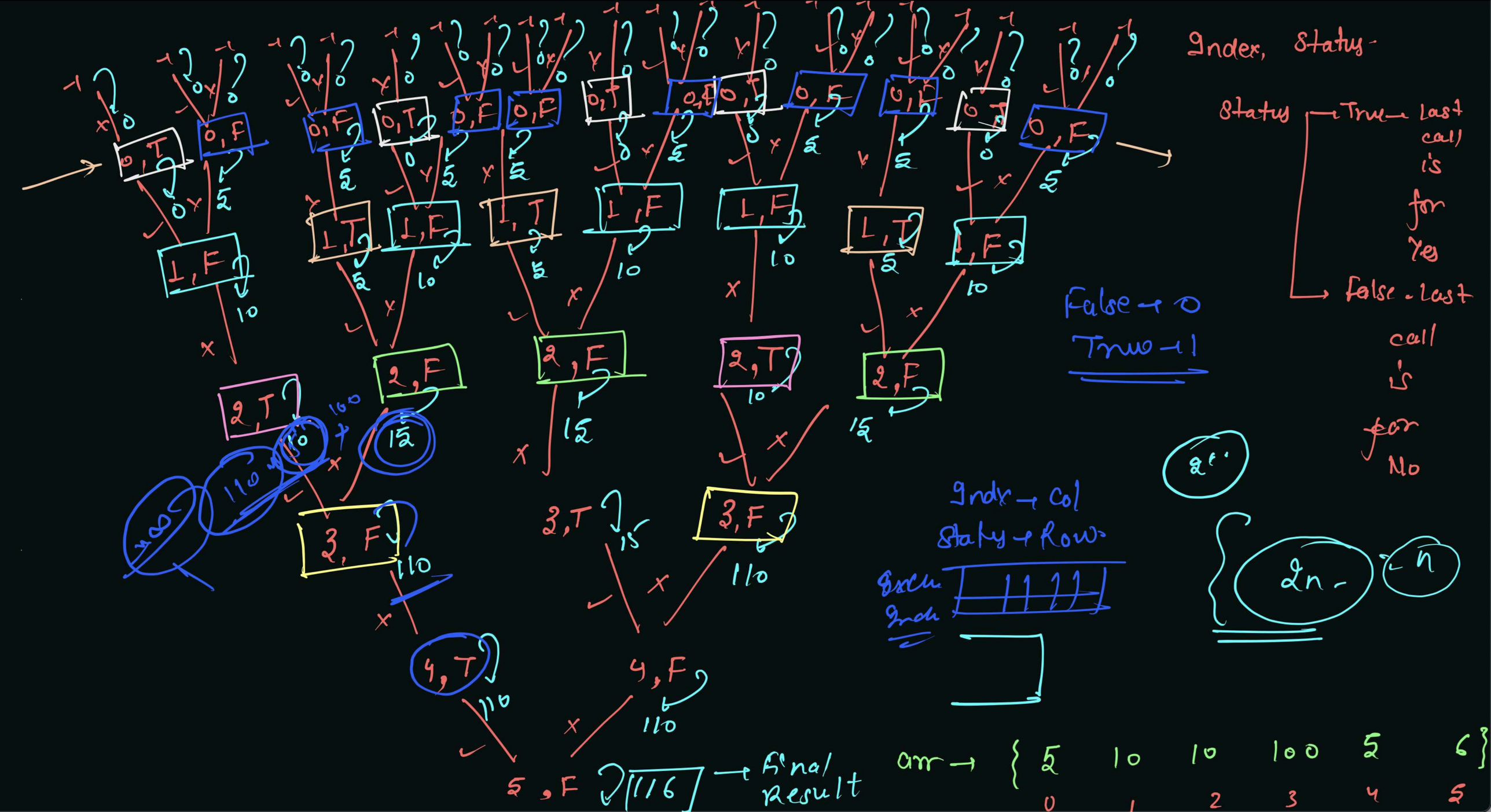
Max Sum Non Adjacent Elements

Tuesday, 29 June 2021 7:57 PM

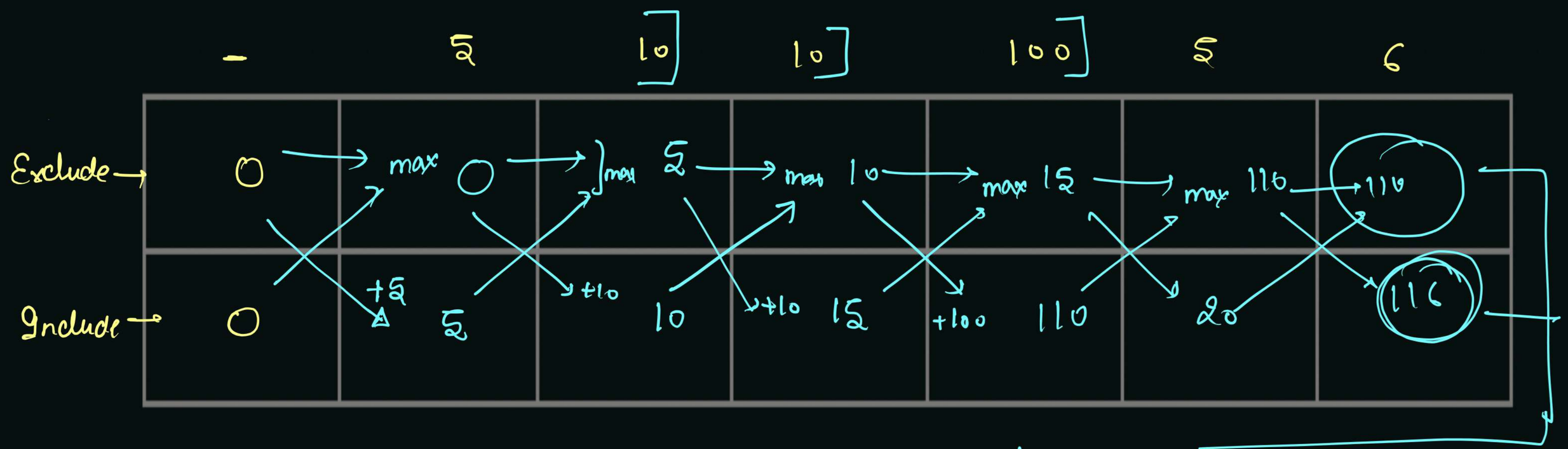
array. given.

Max sum, Non Adjacent Element




Index, Status
Status → True → Last call is for Yes
False → Last call is for No
False → 0
True → 1
Indx → Col
Stat → Row
Excu Indx
arr → { 5 10 10 100 5 6 }
0 1 2 3 4 5
Final Result
116
2n
n

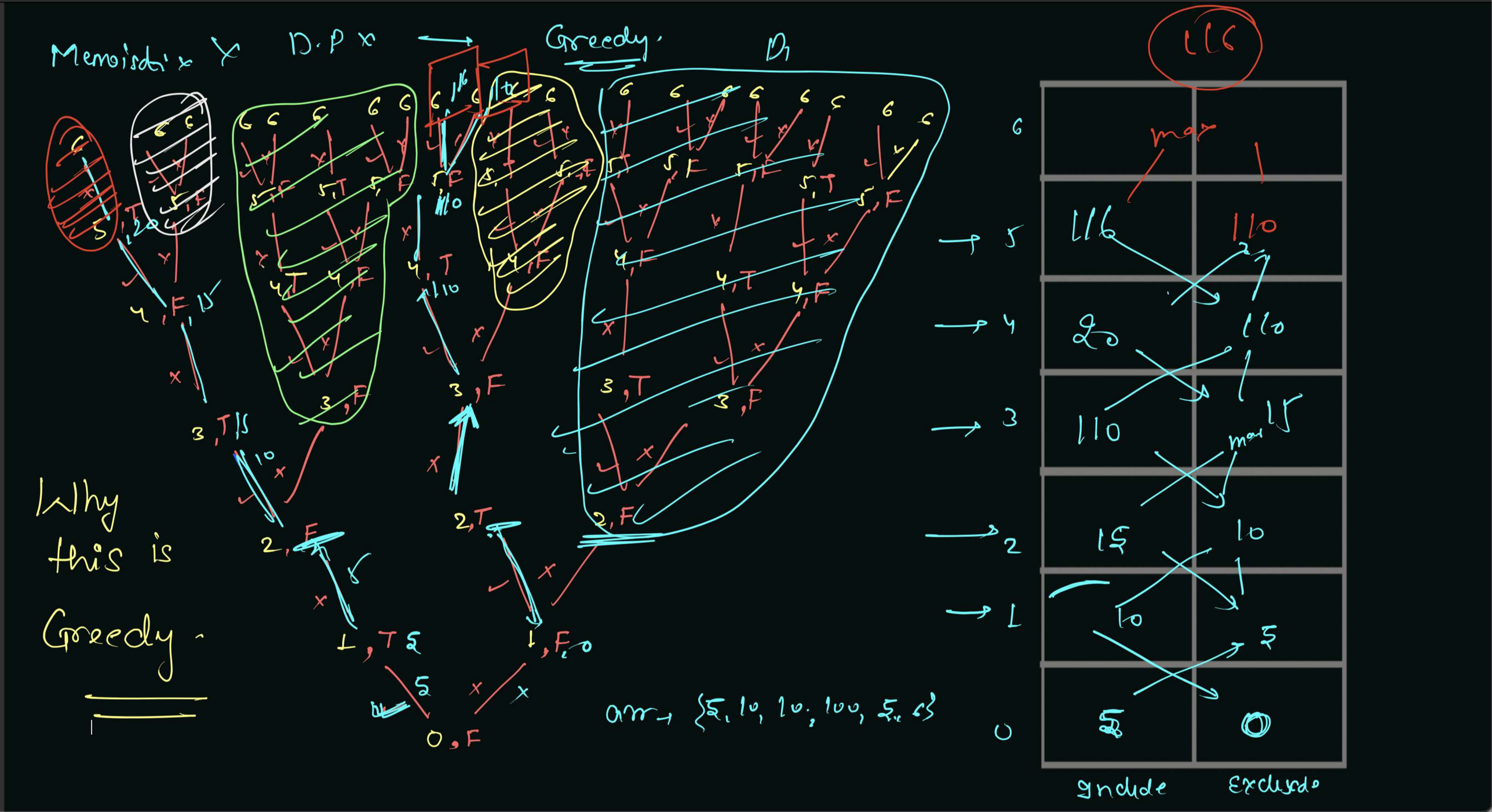
arr → 5, 10, 10, 100, 5, 6



Final Result → max of

Exclude Include

Possibility

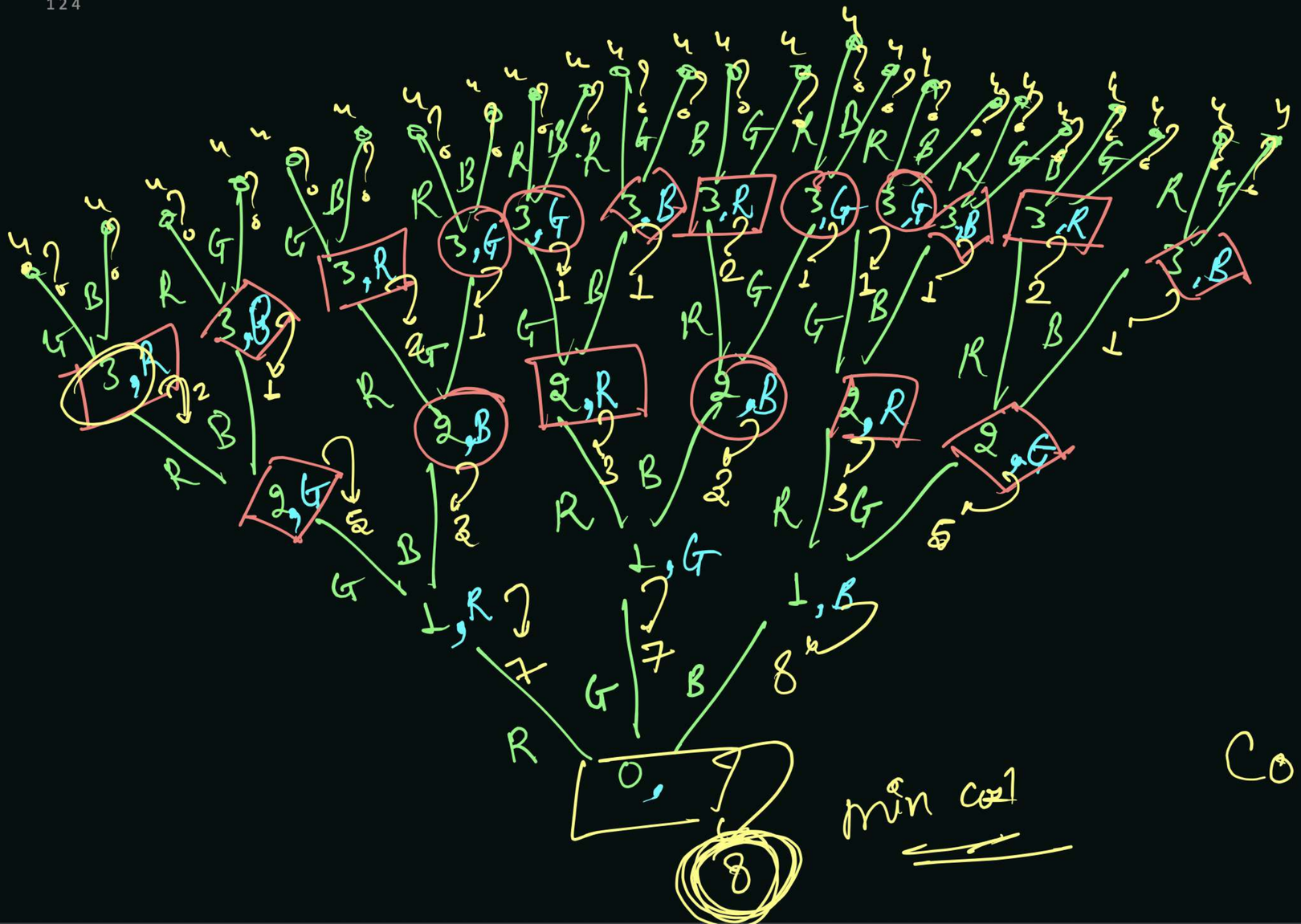

Memoisation
D.P
Greedy.
Why this is Greedy.
arr → {5, 10, 20, 100, 5, 6}
LIS
include
exclude
max

Paint House

Thursday, 1 July 2021 7:49 PM

157
584
329
124

Recursion:



1st → Green → 8 cost spend

Min cost to paint all house, such that No two adjacent house have color.

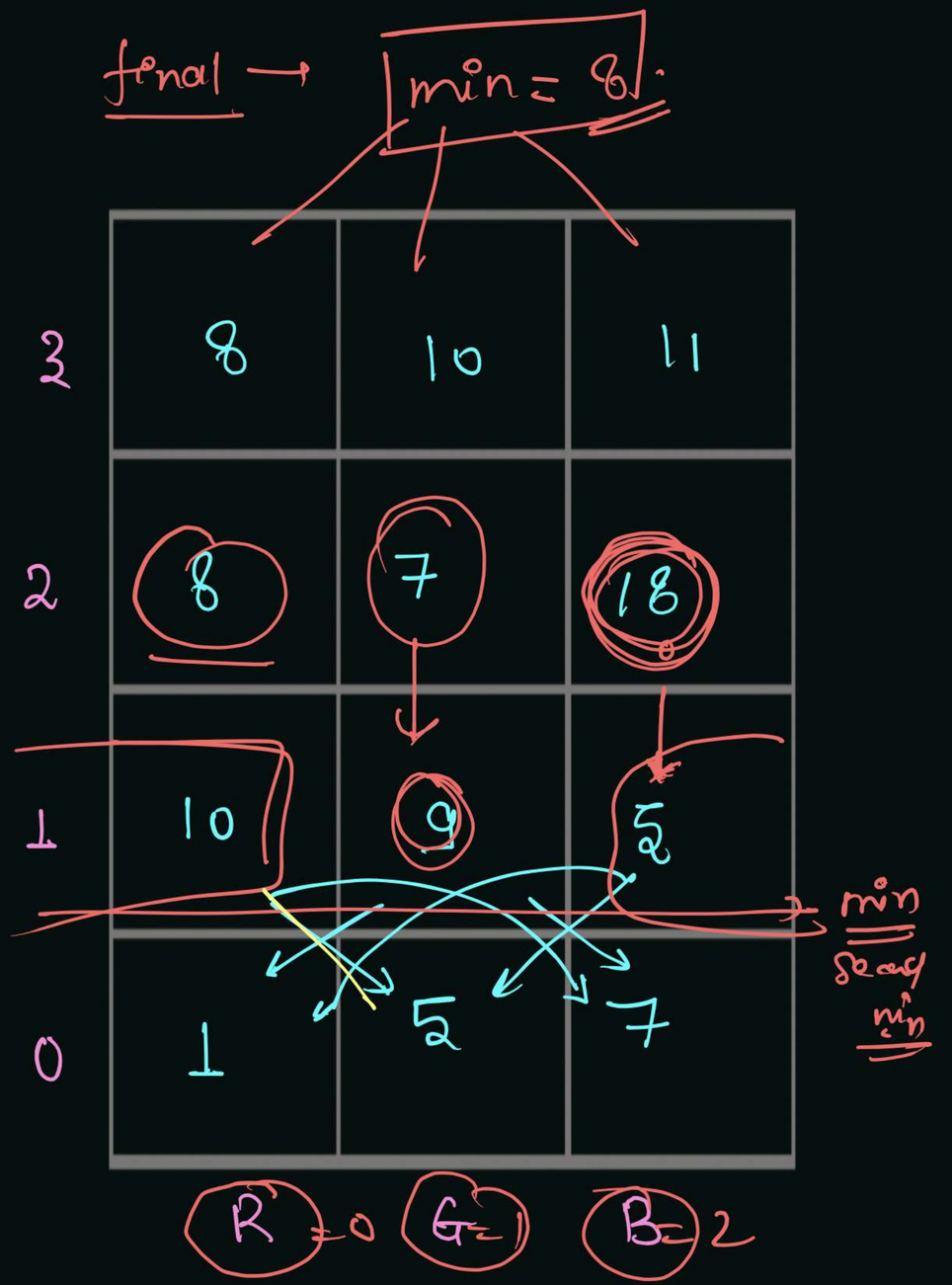
Color →	R	G	B
House ↓ 0 →	1	5	7
1 →	5	8	4
2 →	3	2	9
3 →	1	2	4

CODE IT BY yourself.

	R	G	B
0	1	5	7
1	5	8	4
2	3	2	9
3	1	2	4

GREEDY

DP →



Paint House - Many Colors

Thursday, 1 July 2021 7:49 PM

House → Colors ↓

10	20	12	11	15	4
14	5	3	16	17	22
20	22	26	21	5	2
2	3	9	7	8	5

DP →

	0	1	2	3	4	5
0	10	20	12	11	15	4
1	18	9	7	20	21	8
2						
3						

old min
old second min

Complexity - $O(n^3)$

↓

Reduce - $O(n^2)$

Gene

At the time of filling

Generate min and second min

new min

new second min