



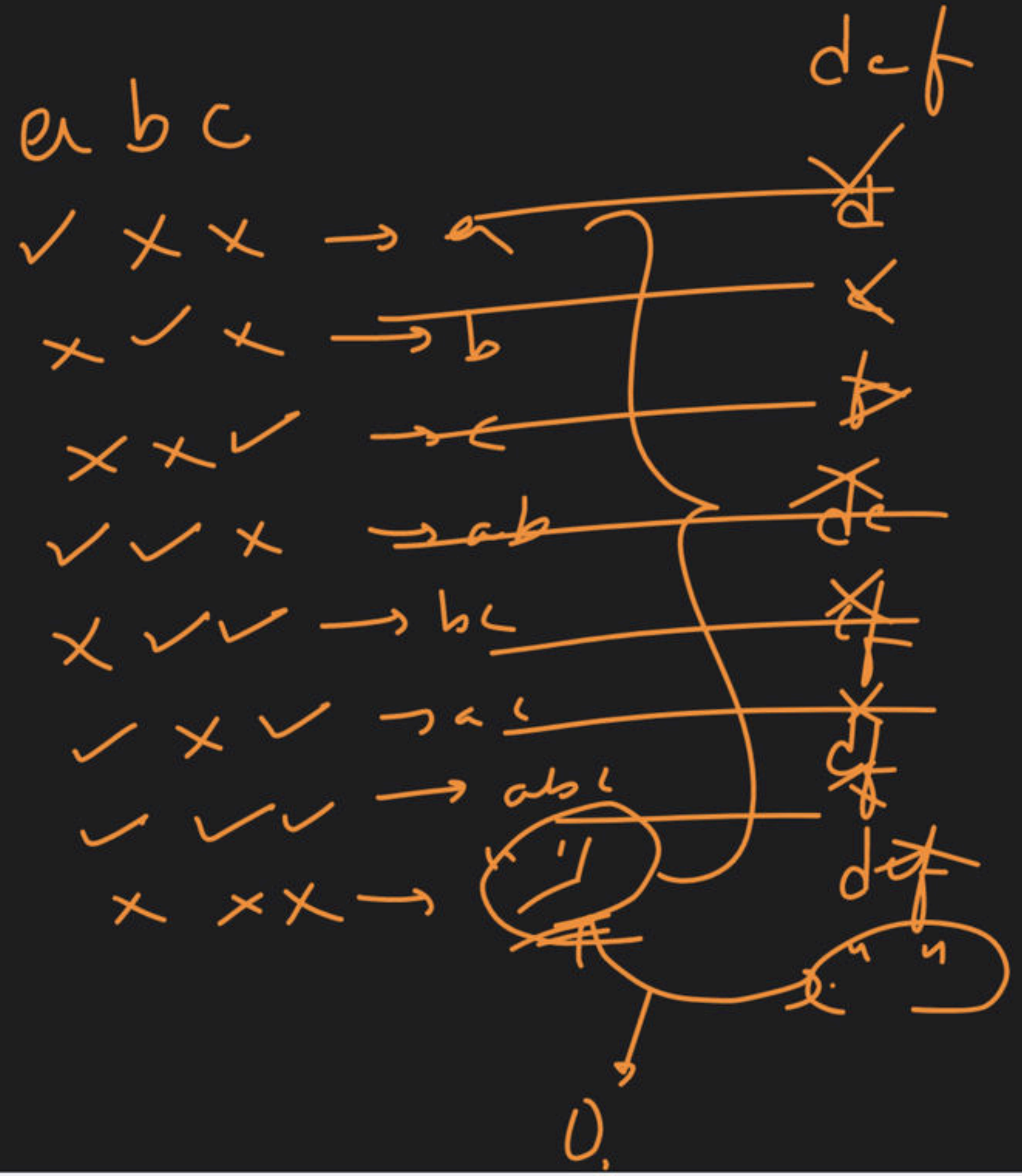
Dynamic Programming Class-4

Special class

→ Longest Common Subsequence:-

Str1 \Rightarrow abc

Str2 \Rightarrow def



str1 → a b c d

" "

a

b

c

d

ab

bc

cd

ac

ad

bd

abc
bcd

abd

abcd

str2 → a b c

a

b

c

ab

bc

ac

abc

" "

3

~~a~~ b c i

~~x~~ y z i

D.L. \rightarrow i j \rightarrow Bond
(0)

a b c

z y z
A

a b c

x y z

b c

x y z
B

1 +

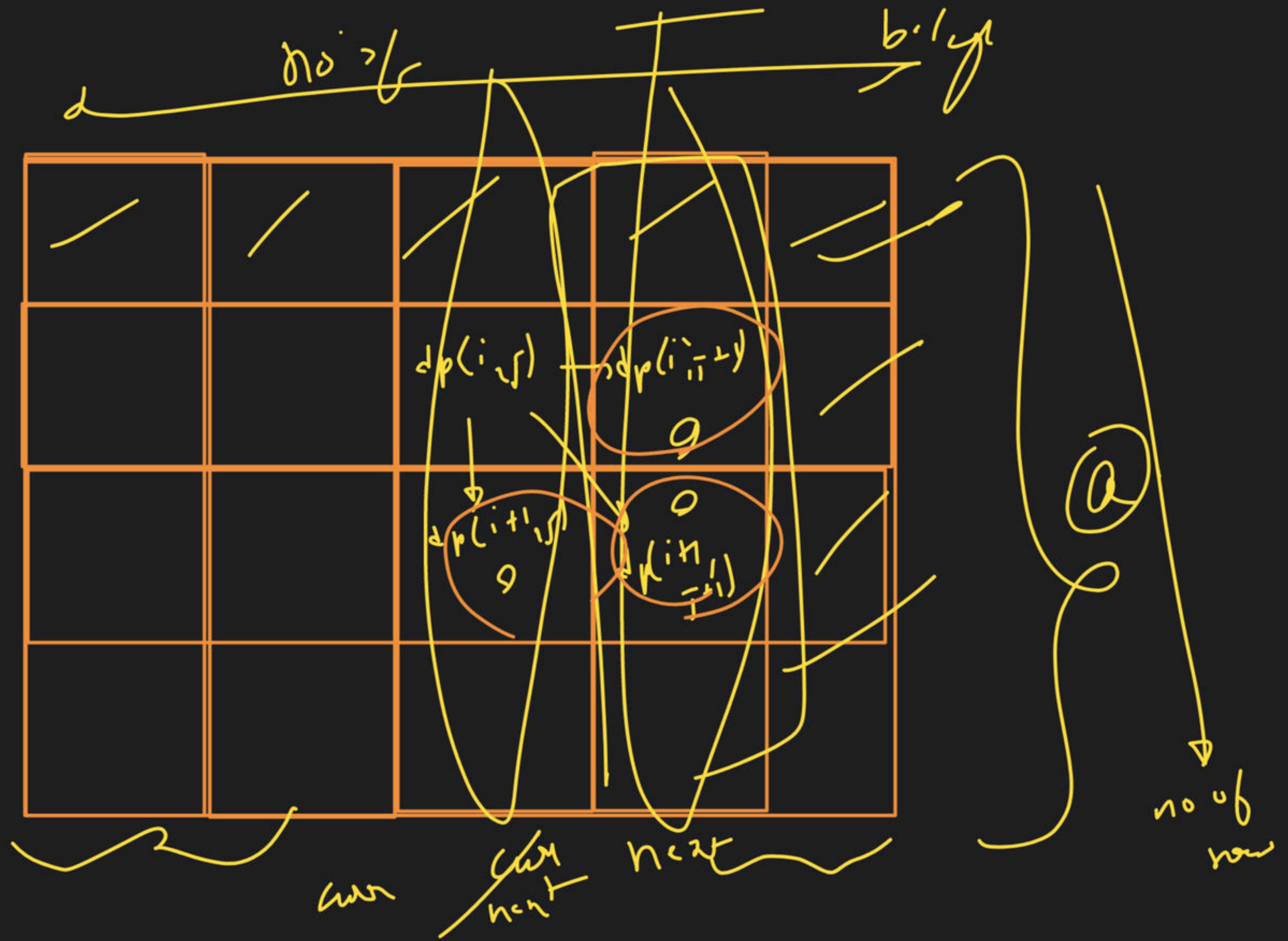
char match

1 + Rec KA An

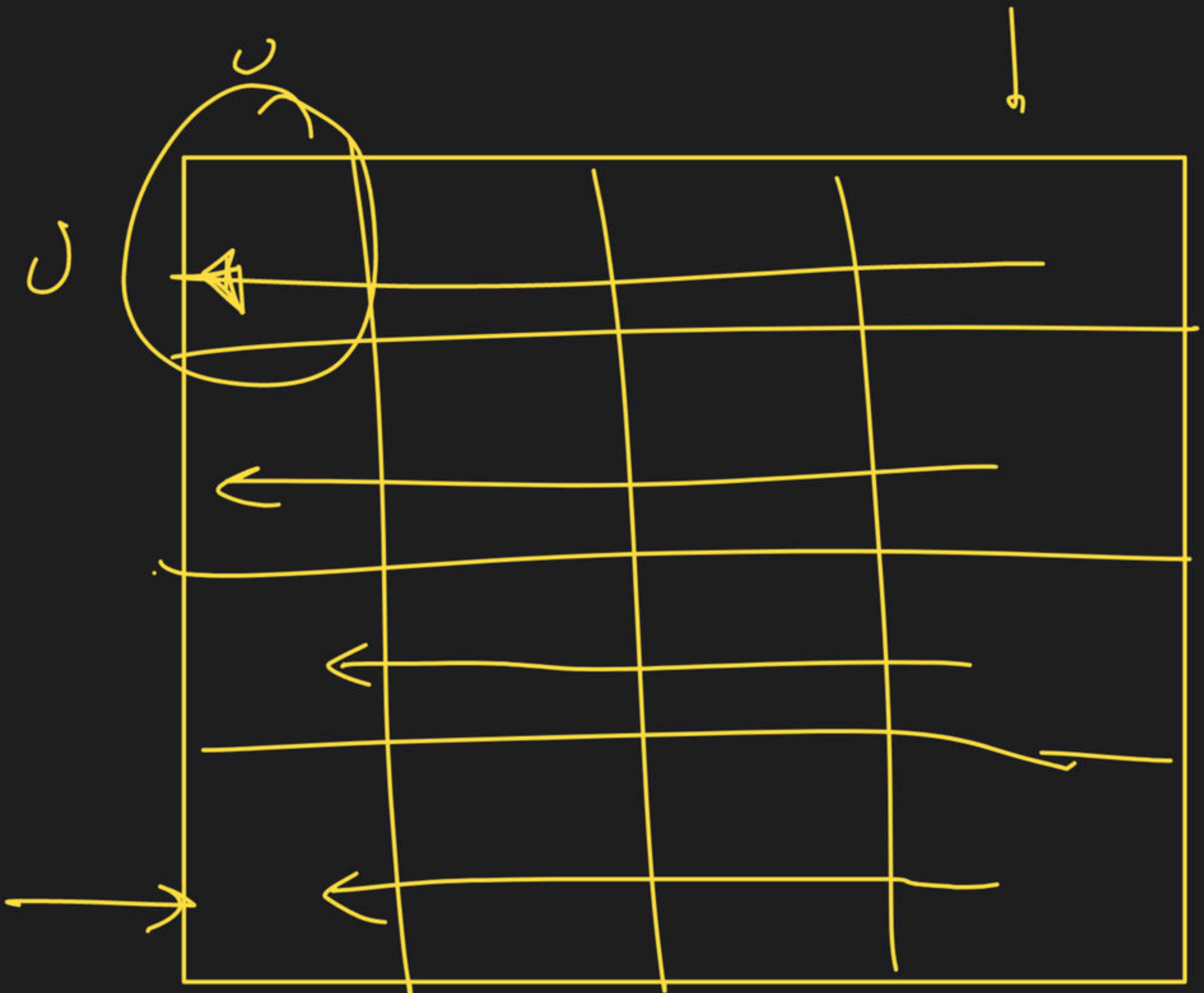
man

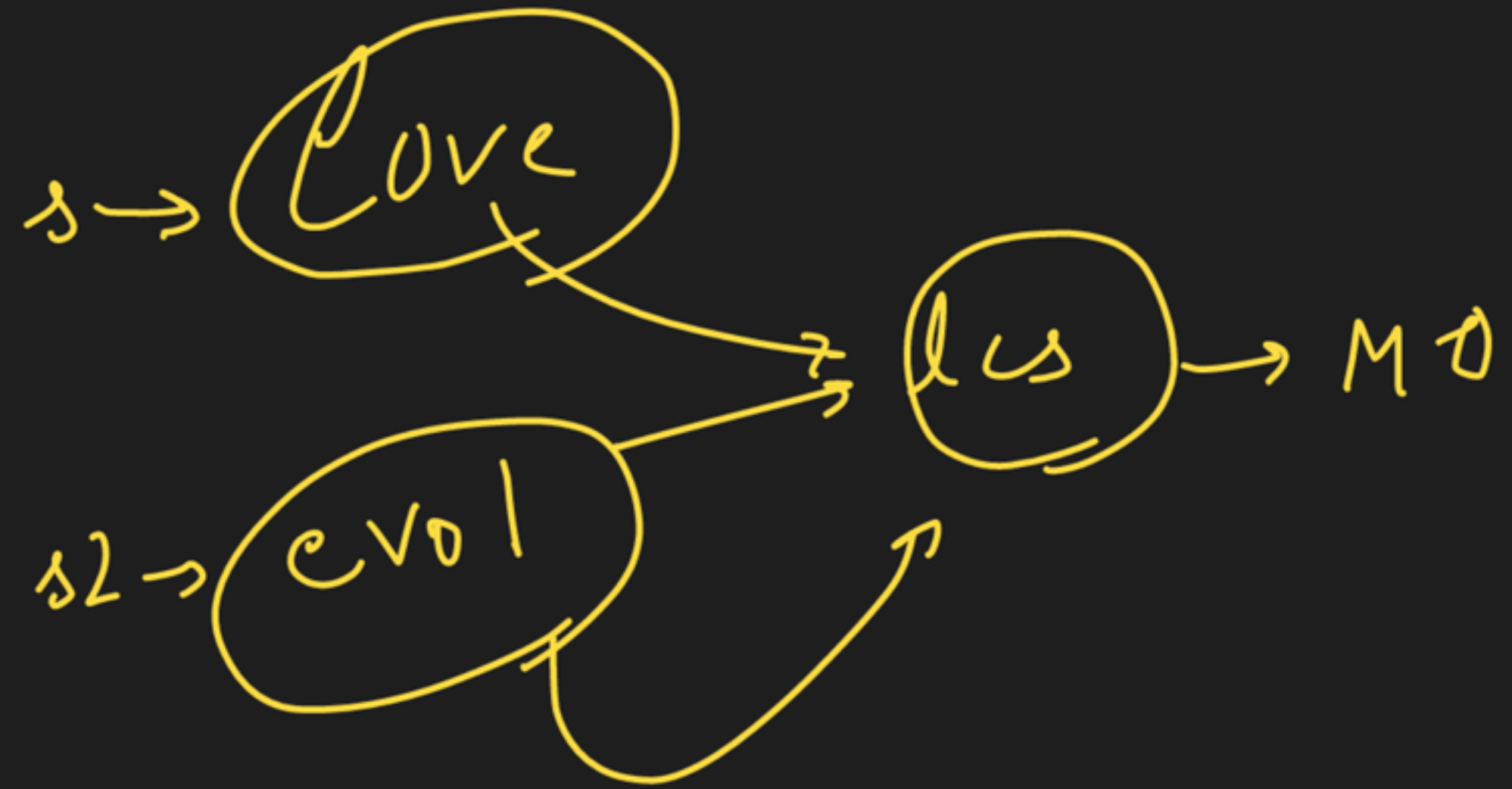
char dont match

0 + Can A An \rightarrow man
Can B An











s1 → ~~h~~ ^{~~i~~} ^{~~j~~} o r s e
s2 → ~~h~~ ^{~~j~~} ^{~~i~~} o u s e
j ✓

char match

i+1, j+1

char
not
matching

s1 →

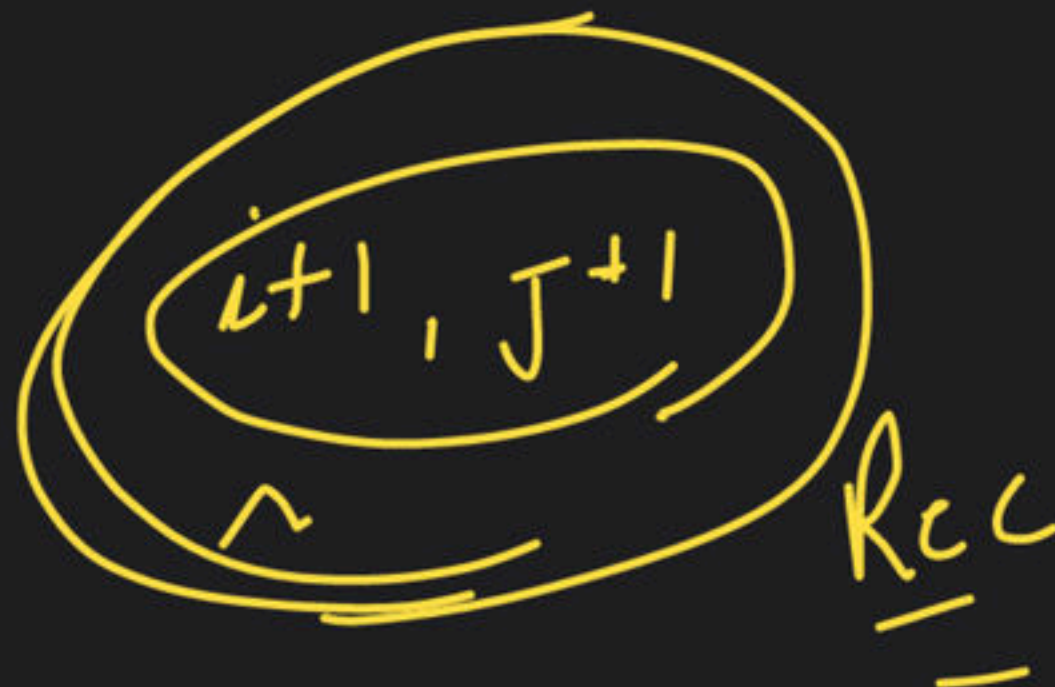


s2 →

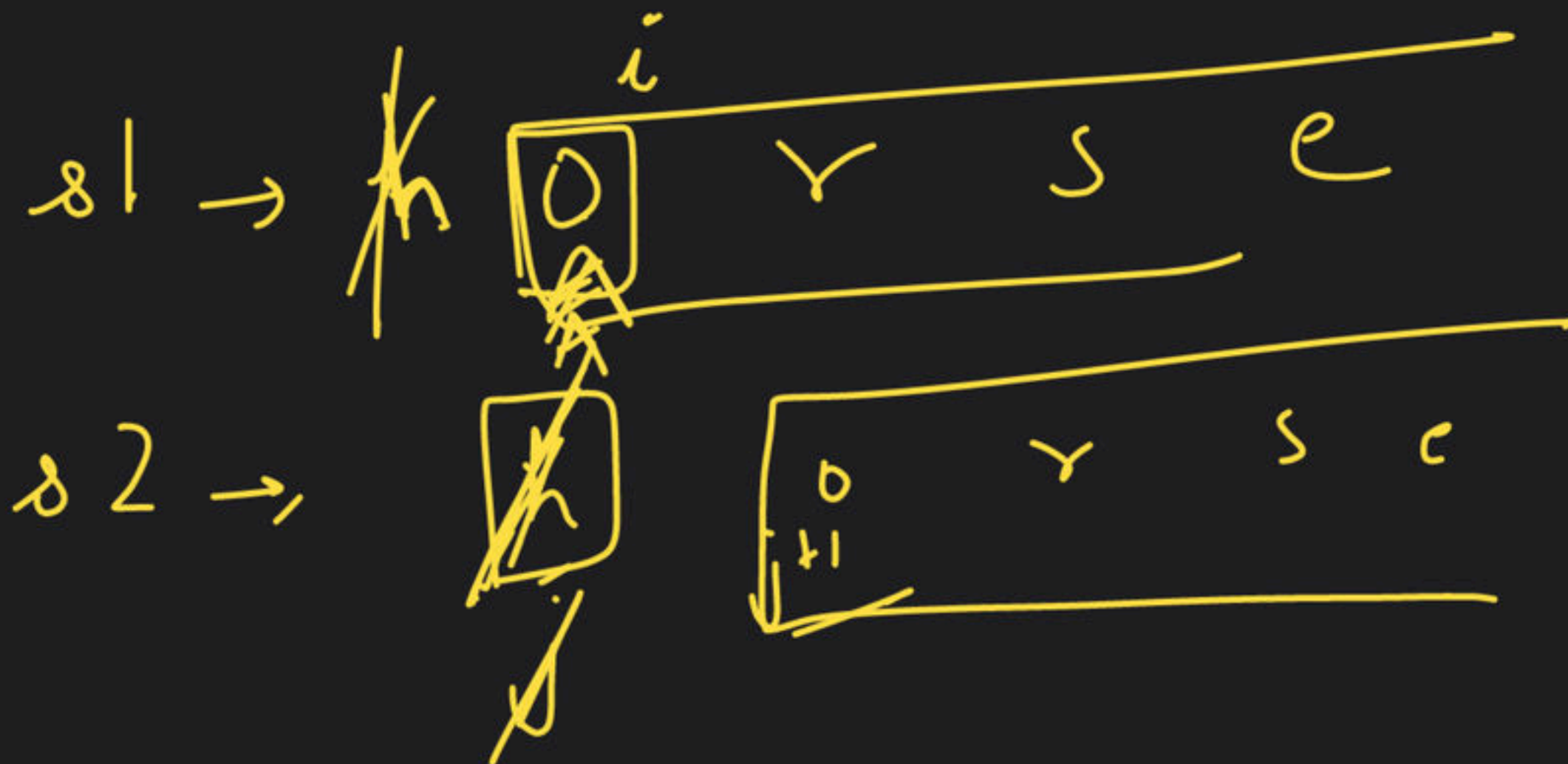


replace →

$\frac{1}{n}$

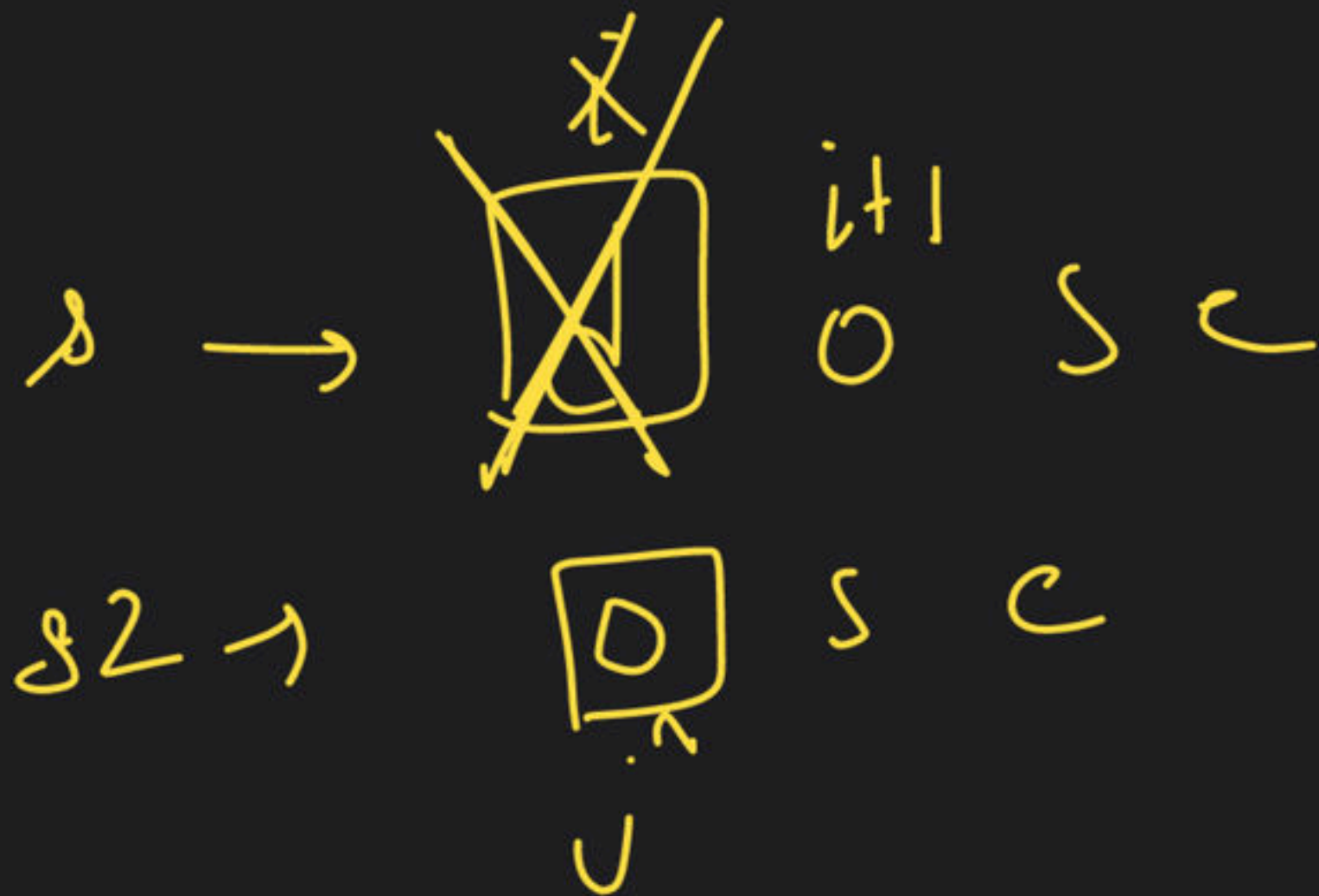


char
not
matching



insert → 1 + $i, j+1$ Rec

(has
not
returned)



$$\text{delete} \rightarrow 1 + \underbrace{(i+1, j)}_{Rec}$$

Char match \rightarrow Rec $\rightarrow (i+1, j+1)$

Char not match



replace $\rightarrow 1 +$

insert $\rightarrow 1 +$

deletion

$1 +$

$(i, j+1)$

Rec

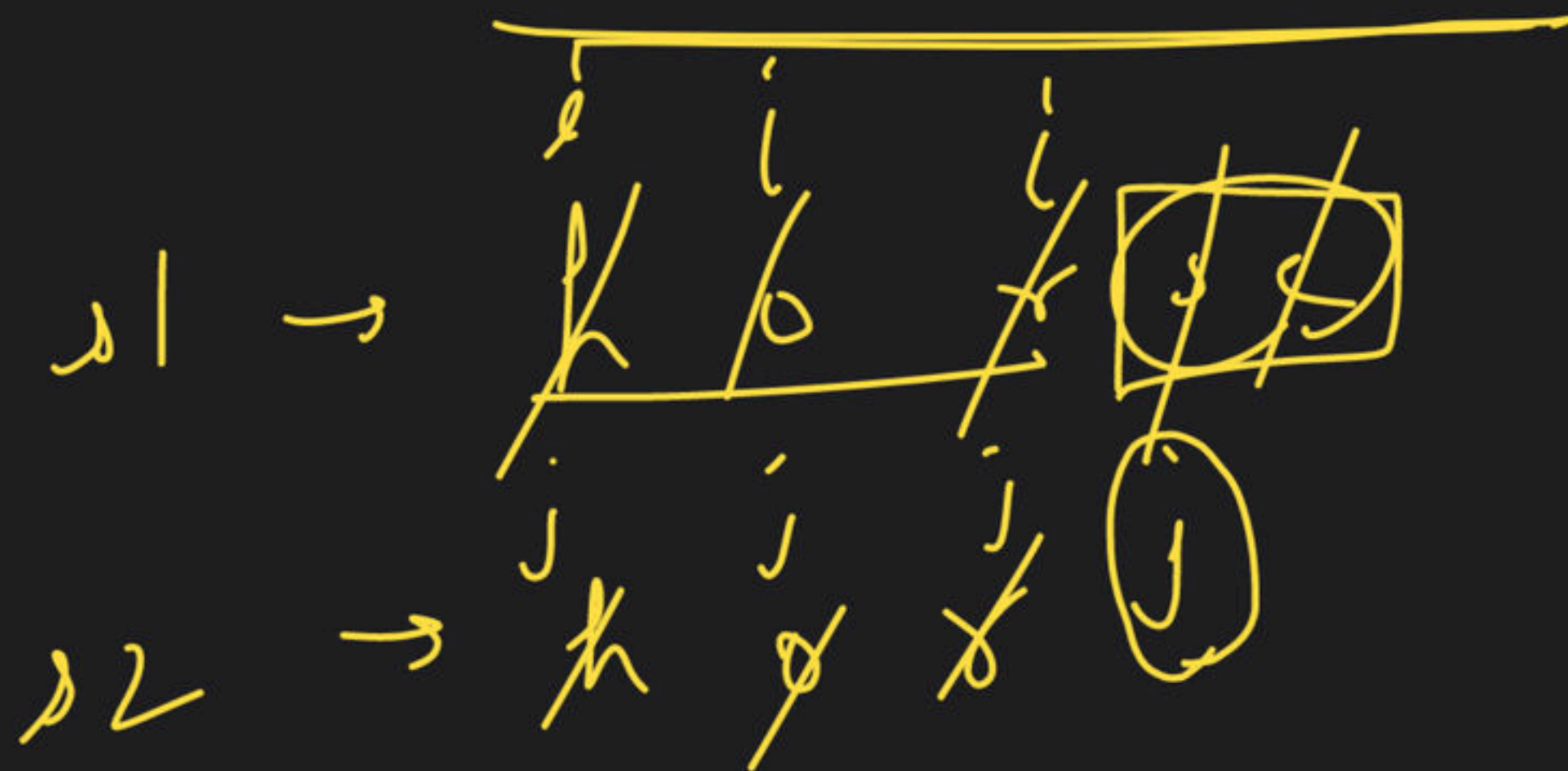
$(i+1, j)$

Rec

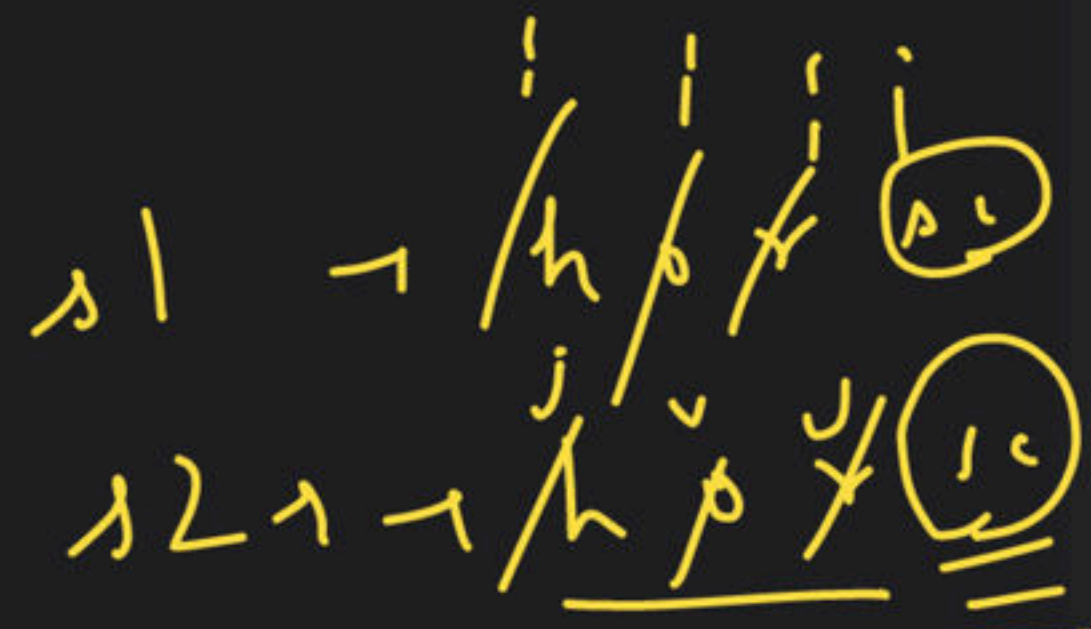
$(i+1, j+1)$

Rec

min



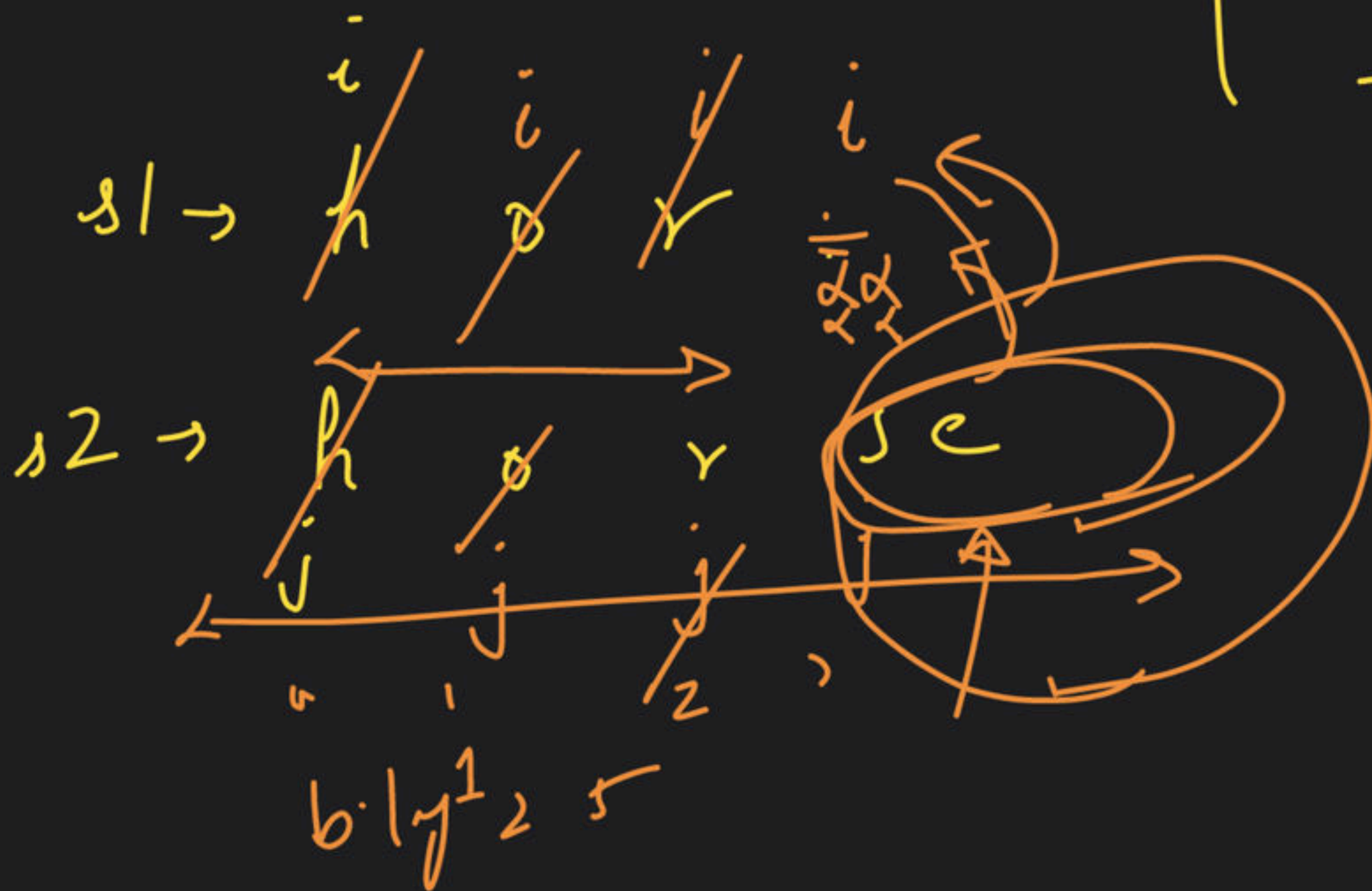
$\text{if } (j == b.length())$
 $\rightarrow a.length() - i$



$\text{if } (i == a.length())$
 $\text{return } b.length() - j$

Rec \rightarrow B.C

```
if (i == a.length())  
{  
    return  $\text{b.depth() - j}$   
}
```



$J=3$

$b \cdot len - j$
 $5 - 3 = (2)$

Rec

B.C

s1 →

i h p x i
↓ ↓ ↓ ↓
j j j j

s2 →

i h p x i
↓ ↓ ↓ ↓
j j j j

$j = 2 \cdot b \cdot \text{length}(1)$
{ return $a \cdot \text{length}() - i;$

$a \cdot \text{len} - i$

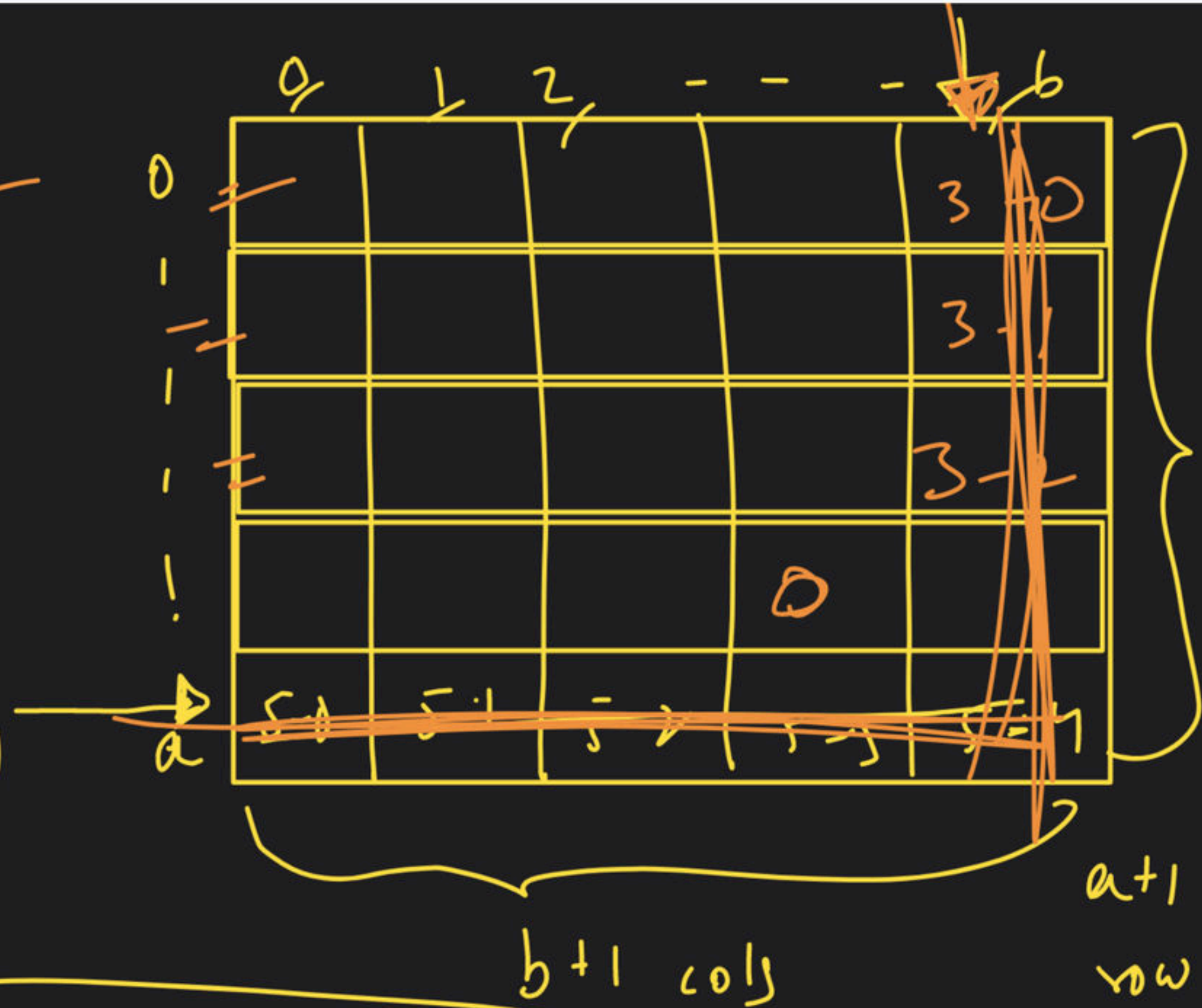
$5 - 3 = 2$

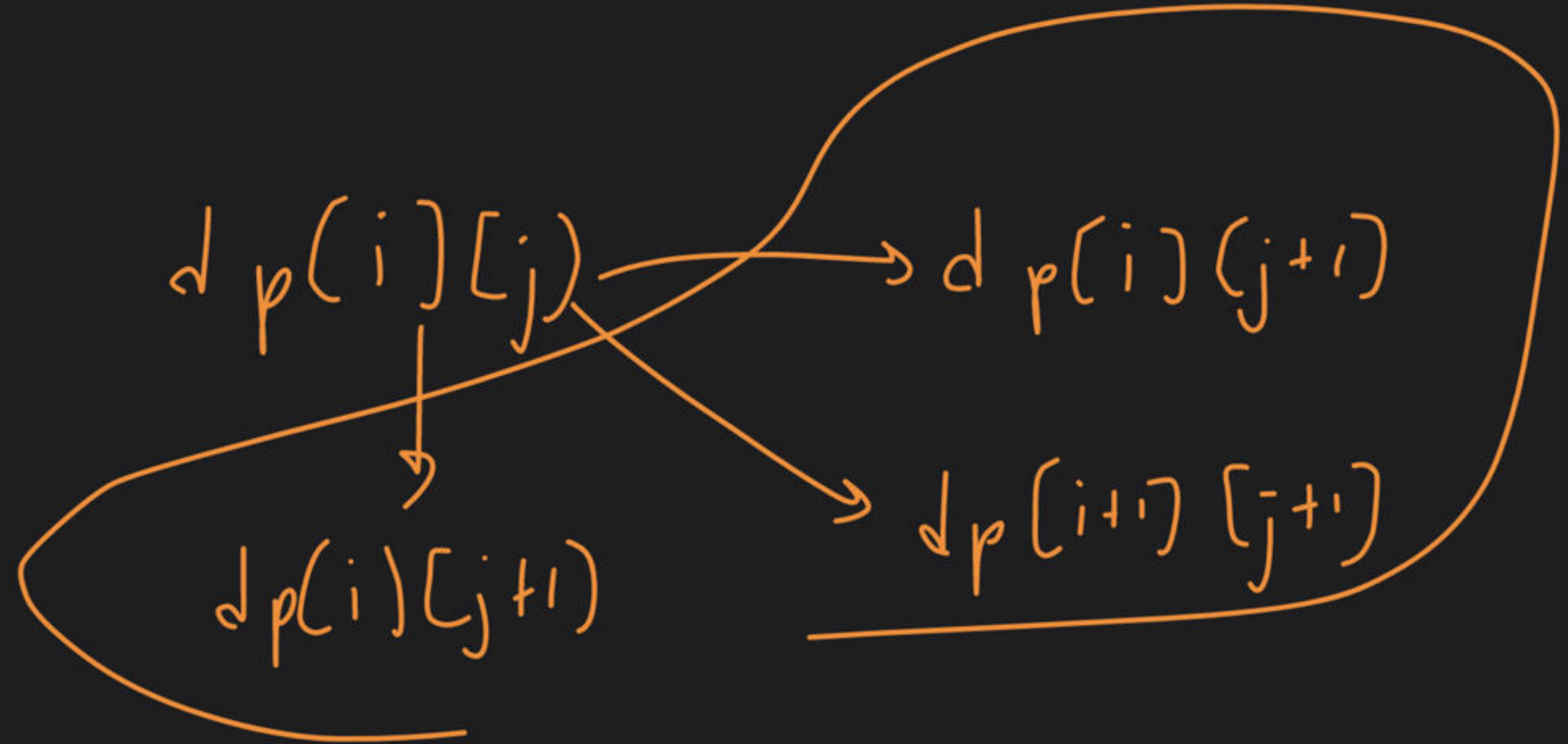
if (~~$i == a.len()$~~)
 return ($b.len() - j$)

if ($j == b.len()$)
 return $a.len() - i$

for ($i = 0; i <= a.len(); i++$)
 $dp[i][b.len()] = a.len() - i$

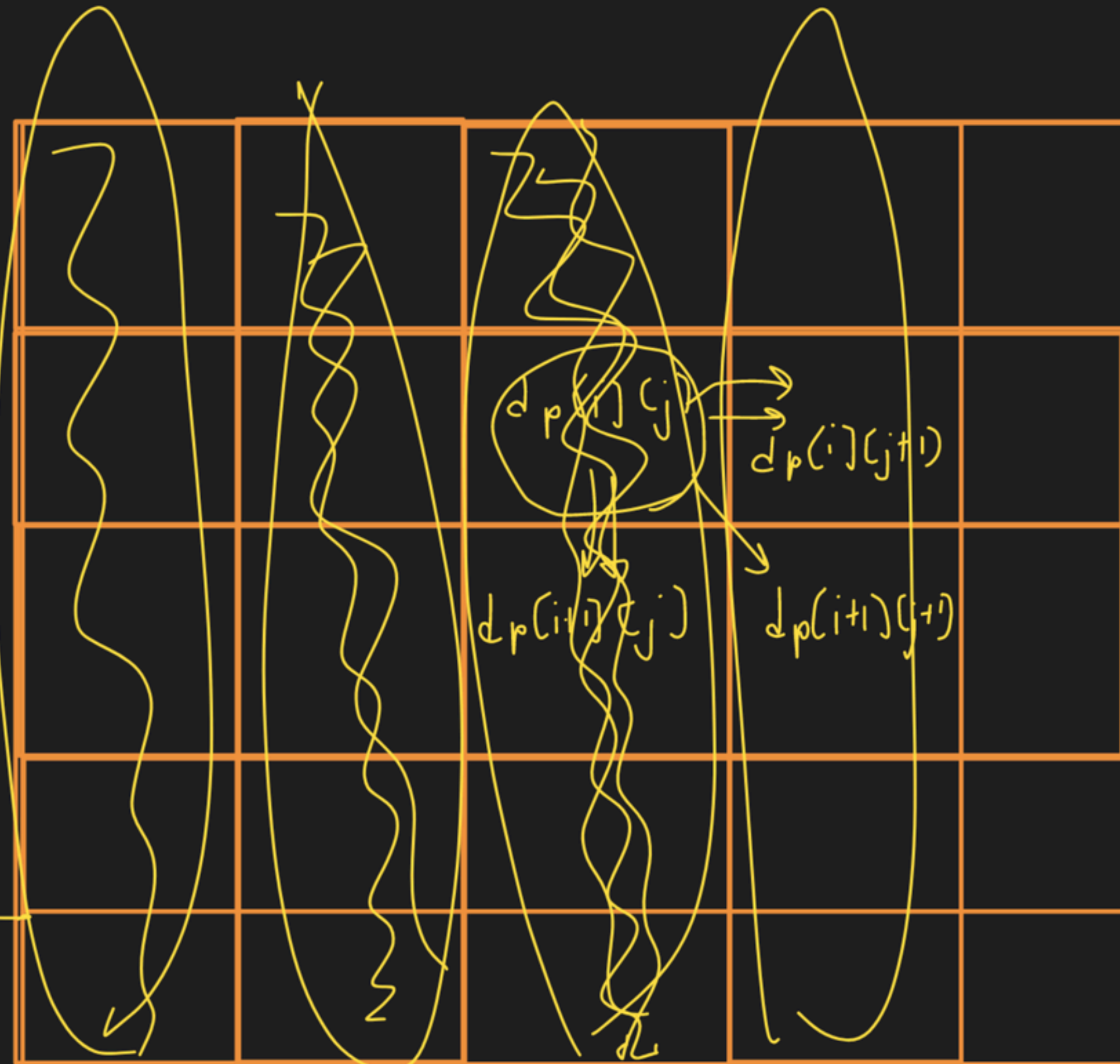
for ($j = 0; j <= b.len(); j++$)
 $dp[a.len()][j] = b.len() - j$





no of
row

a



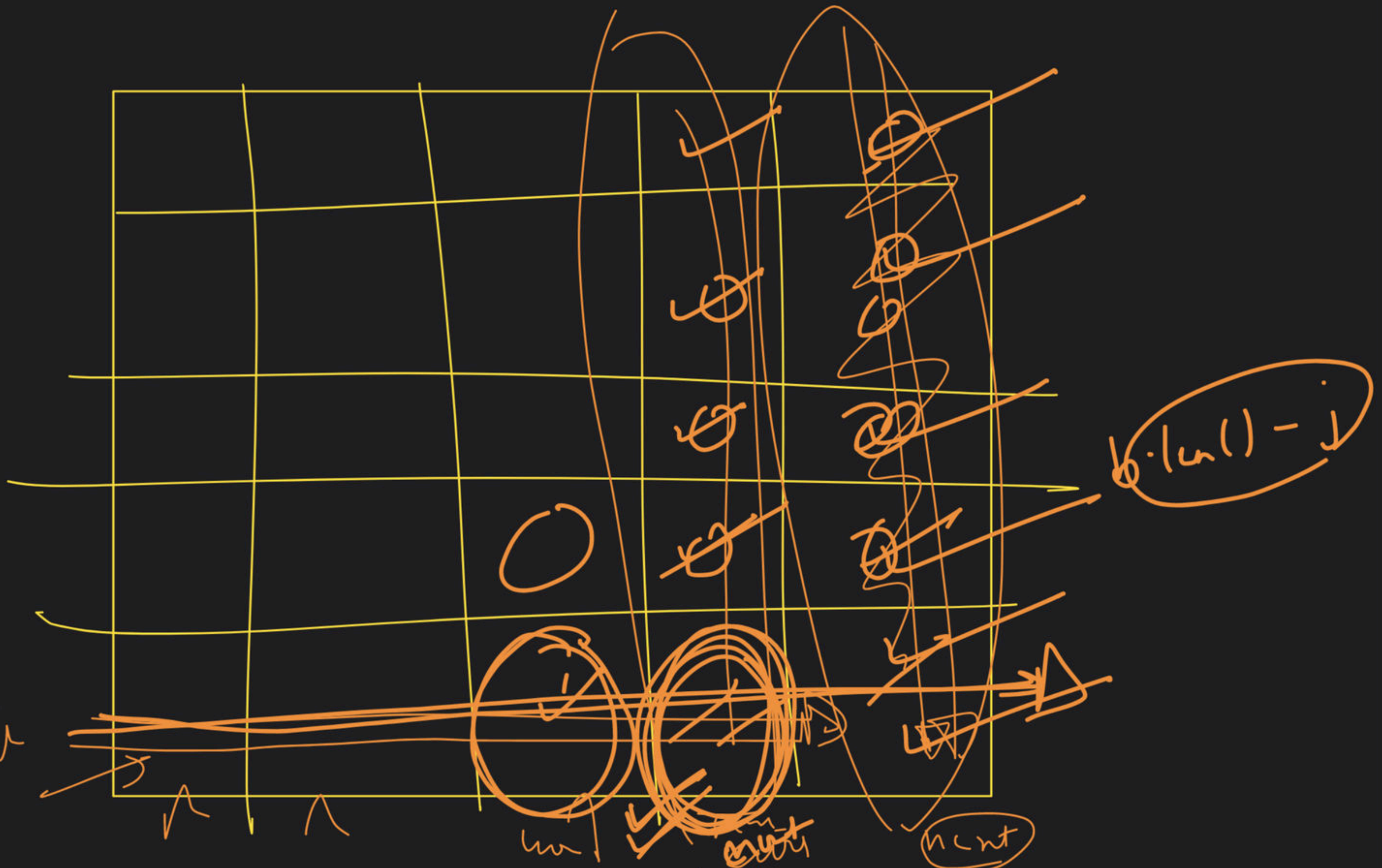
cur

cur+1

cur+2
next

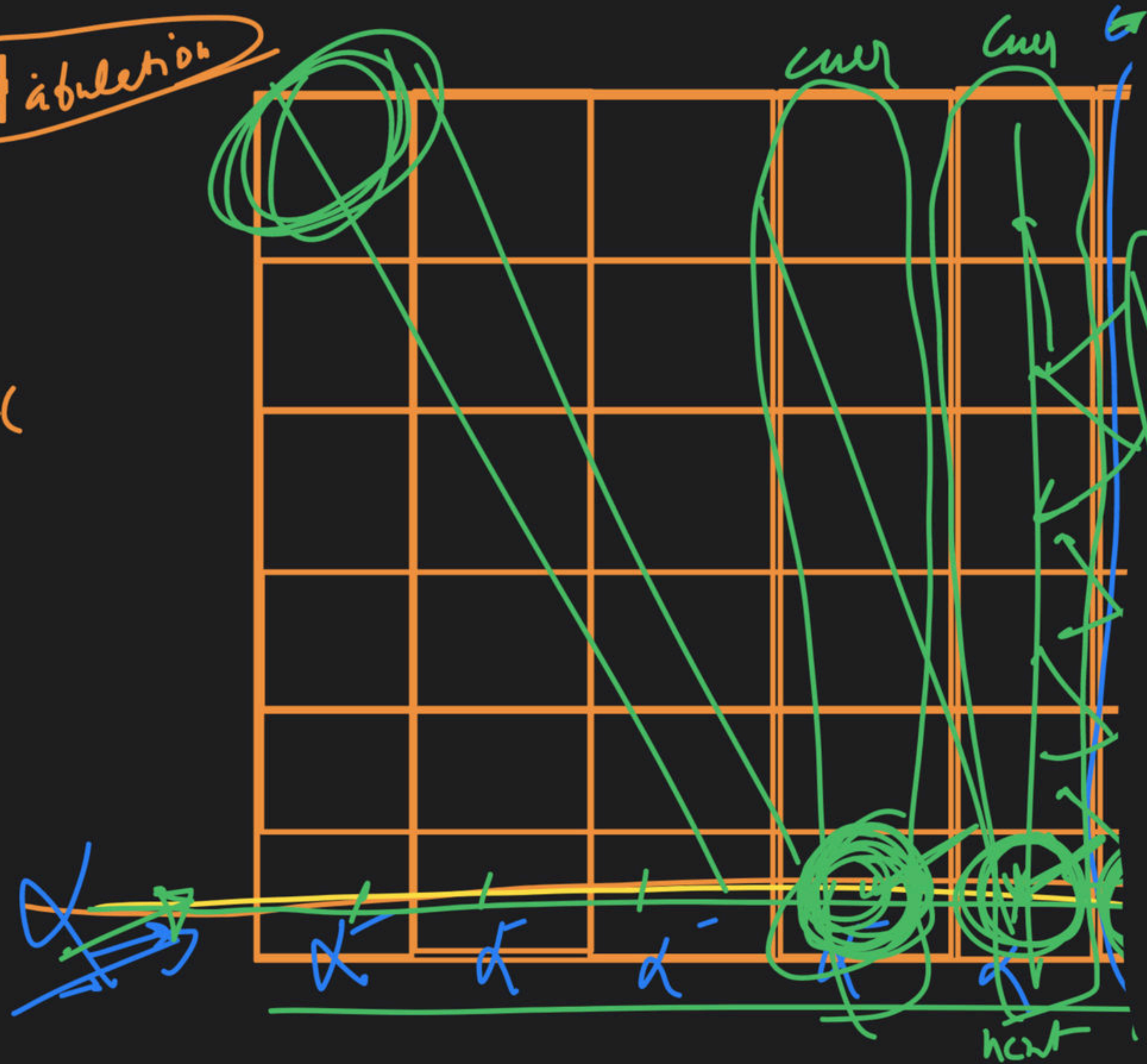
next





habulation

B.C



amazon

10 Lakh

2-3
2-5
2/3

MSFT

25%
25%
25%
25%

CTC

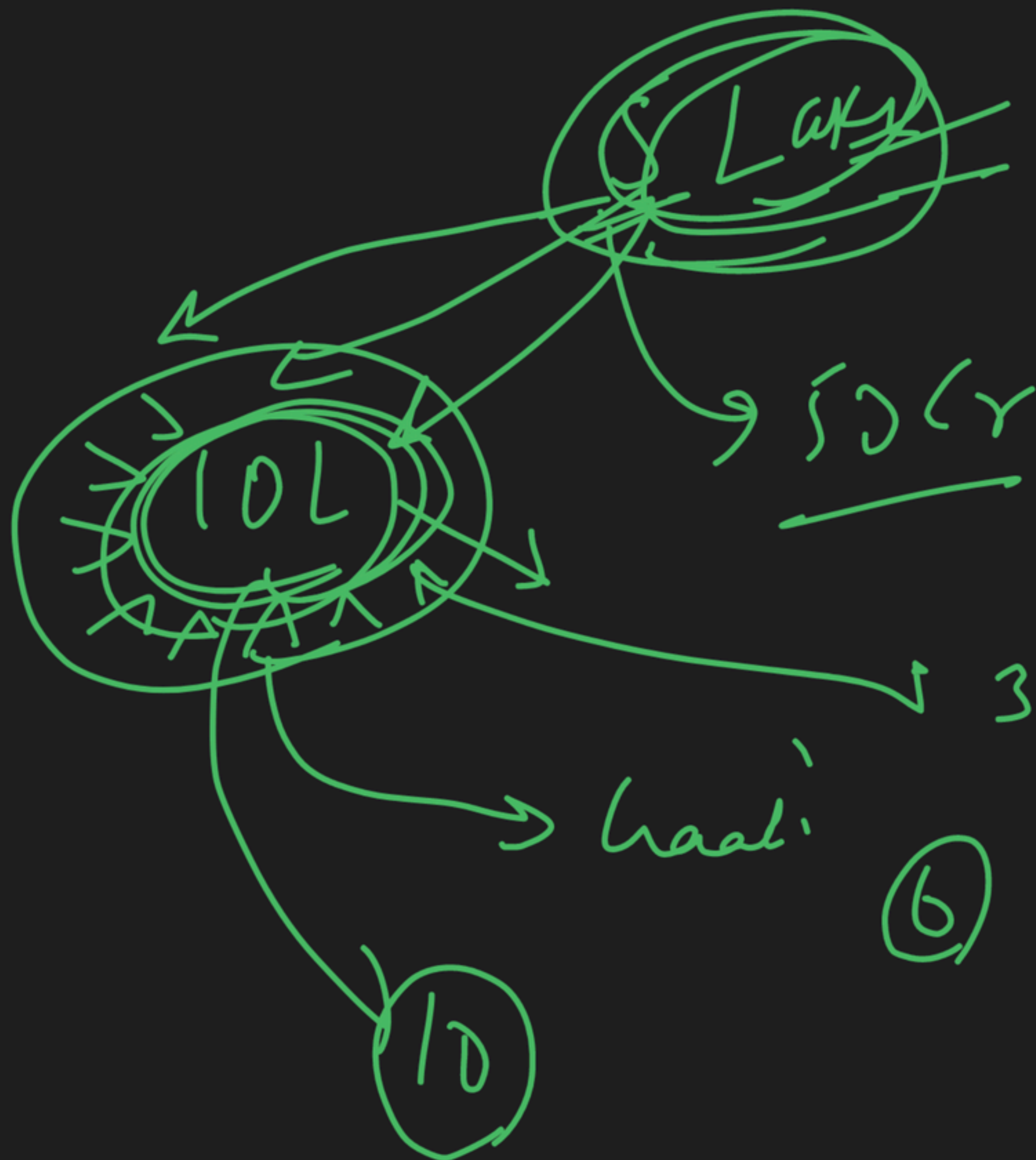
5/6 yrs
70 stock

~~I → 15%
II → 15%
III → 30%
IV → 40%~~

July 2019



↔ (1 week)



E/MIS

1 bar

Real estate

शान

