*Longest Palindromic Subsequence

aaaba ⟶ aaaa

a a a b a
↑ ↑
l r

$O(n^2)$
$O(n^2)$

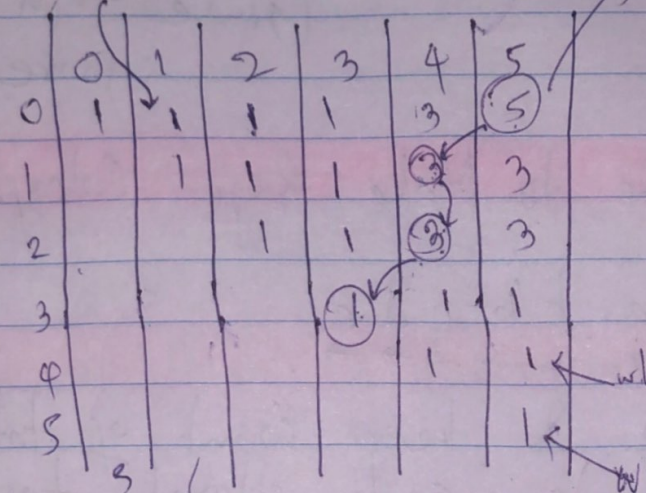
if match l & r ⟶ l+1, r-1

not ⟶ max[(l+1, r), (l, r-1)]

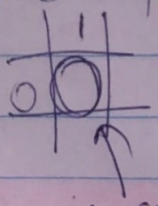
memoization to optimize

In each position keep counting # of palindromic ~~substrings.~~ subsequences.

a g b d b a
0 1 2 3 4 5



answer; for the whole string



if S[0] = S[1]
2+ diagonal
else max (left, down)

when length = 2

when length is 1

$O(n^2)$
$O(n^2)$

string → abdba

a
b
g b d
not matching

gb, bd
fake way

b d b
match
2+ value of dp[3][3]

2+ dp[3][3]

DUMINDU

EDUCATION IS THE BEST INVESTMENT