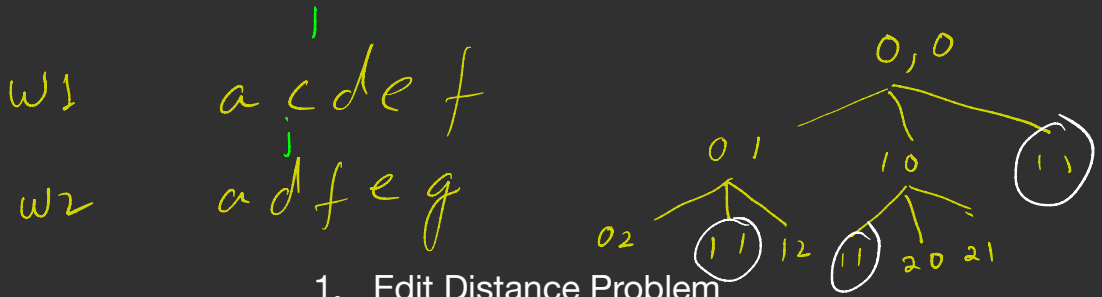
L63
Dynamic Programming : Classical Problems 2

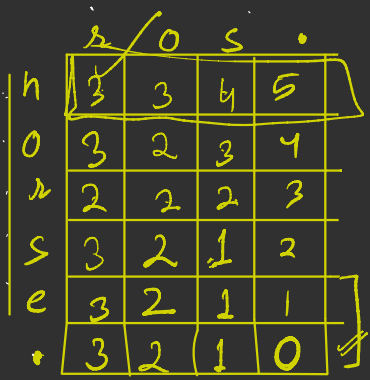
Join Discord - https://bit.ly/ly-discord

RECAP

Let’s dive right into it



1. Edit Distance Problem



Intuition

```
for(int i=4; i>=0; i--)
for(j=2; j>=0; j--)
```

```
j = word1.size
word2.size - j
```

```
j = word2.size
word1.size - i
5 -
```

```
op1 = 1 + 1
op2 = 1 + 1
op3 = 1 + 0
```

0	1	1	2	3	5	8	13	21

O(n)

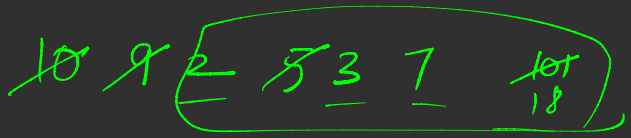
a = 0
b = 1
c = 1

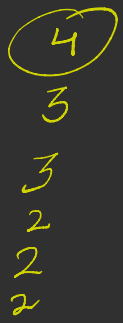
Solution

a = 0 → 1
b = 1 → 1

```
for( int i = 2; i <= n; i++)
{
    c = a + b;
    a = b
    b = c
}
```

Let’s implement



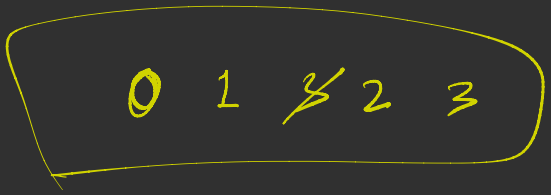


2. Longest Increasing Subsequence

	10	9	2	5	3	7	101	18
dp	1	1	1	2	2	3	4	4

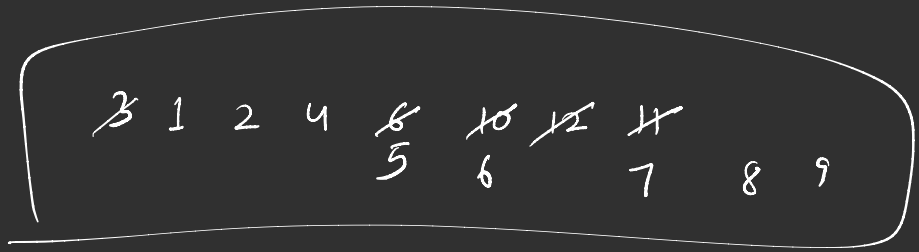
0 1 0 3 2 3

Intuition



3 1 2 4 6 10 12 11 5

6 7 8 9



Solution

Let’s implement

But, there is a better solution as well.

Mind you, it’s not an easy one.

Intuition

Solution

Let’s implement

1 more problem?

Number of Palindromic Substrings

Thank You!

Reminder: Going to the gym & observing the trainer work out can help you know the right technique, but you'll muscle up only if you lift some weights yourself.

So, PRACTICE, PRACTICE, PRACTICE!