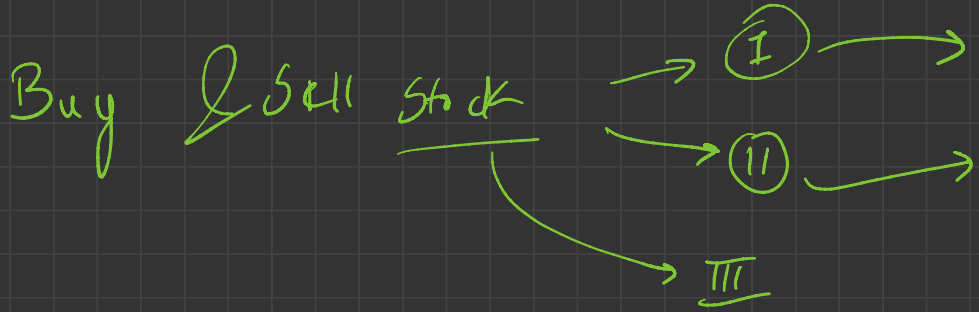
Dynamic Programming

Buy & Sell Stock



B → Buy
S → Sell

buy → 0 → not allowed
→ 1 → allowed

part-2

3D DP

i/p → prices → [3, 3, 5, 0, 0, 3, 1, 4]
B S B S

f(index, buy)

profit = (3 - 0) + (4 - 1)
= 3 + 3 = 6

limit = 2

limit = ∞

```
if(buy)
    profit = max [ BuyKaro → (-price[i] + f(index+1, 0, limit)
                   SkipKaro → (0 + f(index+1, i, limit) ]
else
    profit = max [ sellKaro → (+price[i] + f(index+1, 1, limit-1)
                   skipKaro → (0 + f(index+1, 0, limit) ]
```

limit = 2

2 transaction

BLS

f(index , buy , limit)

↳ if (index == n) ← BC
return 0;

↳ if (limit == 0)
return 0;

S.C → n x 2 x 3

T.C → O(n x 2 x 3)