Buy and Sell stocks - III

prices: { 3 3 5 0 0 3 1 4 }

We can do max^m 2 transactions

It is a extension of buy and sell stock - II

- We are bound to have 2 transactions.

```
f(i, buy, cap)
  if(i >= n)  return 0;
    if(cap == 0)  return 0;

if(buy) return max{ -price[i] + f(i+1, 0, cap) ,
                                 0 + f(i+1, 1, cap) };

else
return max{ price[i] + f(i+1, 1, cap-1) ,  0 + f(i+1, 0, cap) };
```

Base Case for Tabulation:

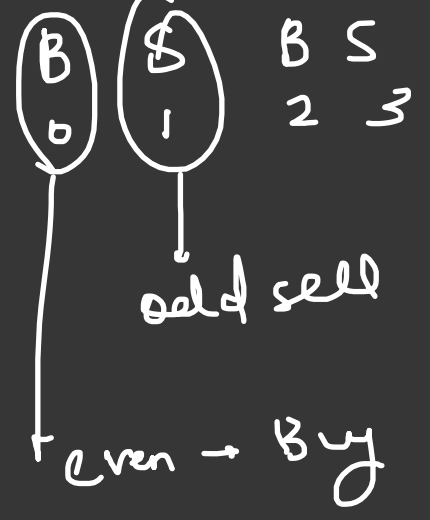
cap = 2 for every i, buy

```
for (i=0, i<n; i++)
    for (buy = 0 → 1)
        dp[i][buy][0] = 0;

for(buy 0 → 1)
    for(cap = 0 → 2)
        dp[n][buy][cap] = 0;
```

Variation in Solution:

Transaction =




```
f( ind, &Transaction)

if(i == n || Trans == 4) return 0;

if(Trans % 2 == 0) // buy

else (// sell
```