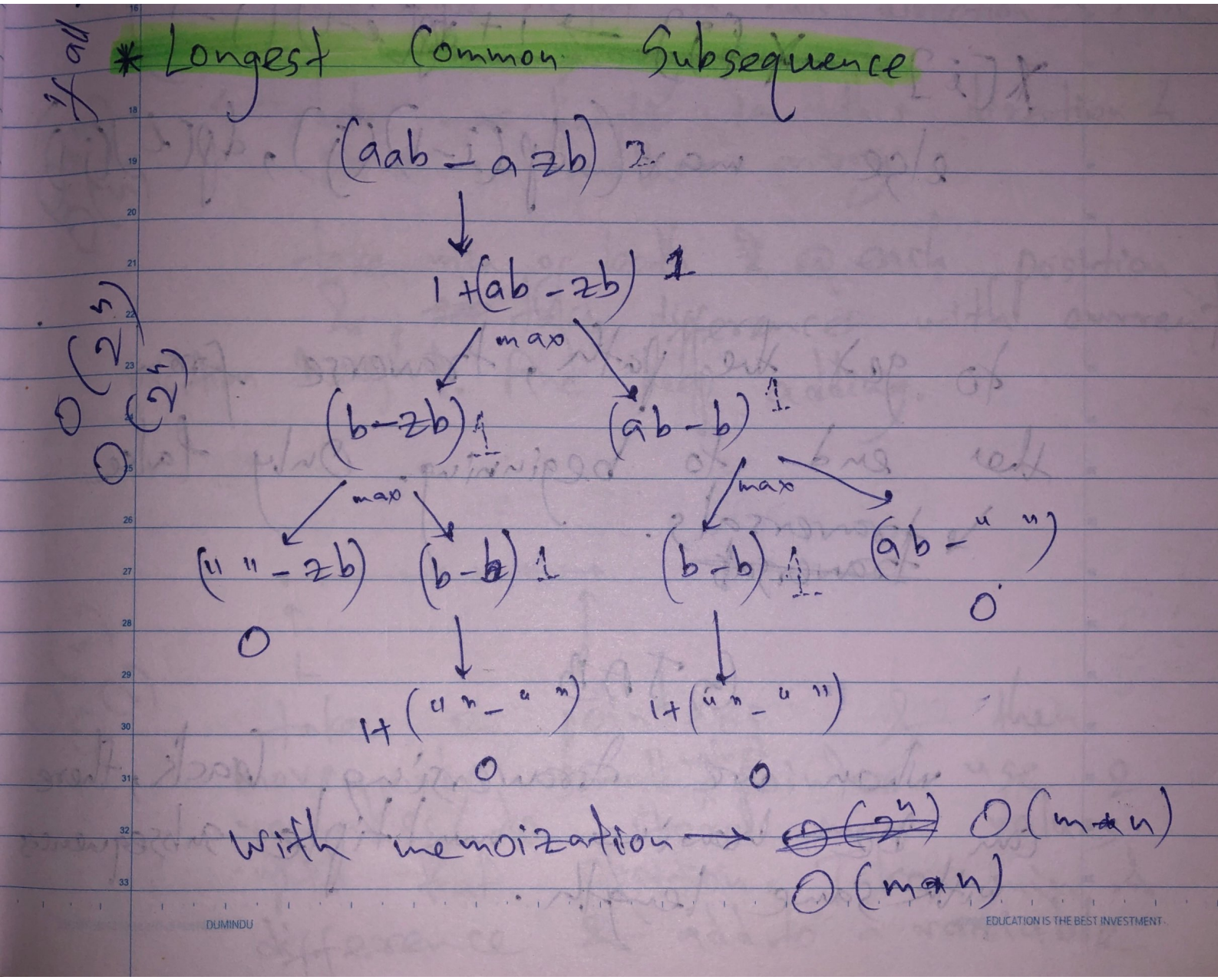
* Longest Common Subsequence



X = AGGTAB

Y = GXTXAYB

one string is empty

		" "	A	G	G	T	A	B
→	" "	0	0	0	0	0	0	0
	G	0	0	1	1	1	1	1
	X	0	0	1	1	1	1	1
	T	0	0	1	1	2	2	2
	X	0	0	1	1	2	2	2
	A	0	1	1	1	2	3	3
	Y	0	1	1	1	2	3	3
	B	0	1	1	1	2	3	4

O(mn)

O(mn)

$X[i] == Y[j] \rightarrow 1 + dp[i-1][j-1]$

else $\max(dp[i-1][j], dp[i][j-1])$

to get the path, traverse from the end to beginning. Only take ~~traversals~~ traversals.

GTAB

when we traversing back, there can be having multiple subsequences with same length.

No. Date.

Can optimize space by using 1D array only. For the previous value use a variable. In each iteration, we keep changing the array.

$O(m*n)$

$O(\max(m,n))$