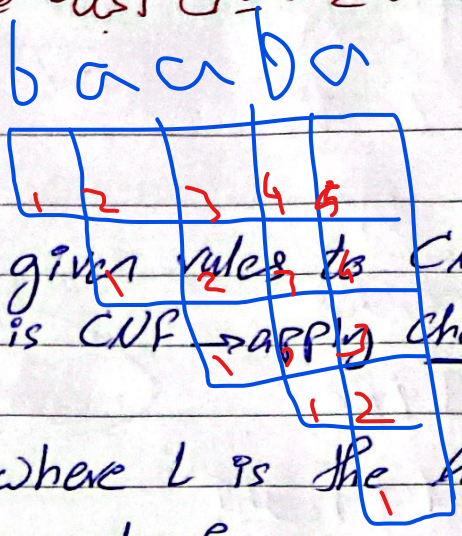
لو في الـ Model طلع S يبقى الجملة Persable ، لو مطلعش يبقى False

CKY problem steps:-

	b	a	a	b	a
	1	2	3	4	5
		1	2	3	4
			1	2	3
				1	2
					1



1. You need to convert the given rules to CNF & if it was told that the given is CNF → apply check.

2. Create a matrix $L \times L$, where L is the length of the given string ie: baaba → $L = 5$

b	a	a	b	a
B	S, A_2	$-_3$	$-_4$	SA_5
	A, C_1	B_2	B_3	A_4
		A, C_1	C_2	B_3
			B_1	A, S_2
				A, C_1

@ 2: look at your left & your bottom then check on all the combination and check for which variable can produce this combination

لما هتبص عند اللي فوق خالص $\boxed{SA}$ هتلاقي مثالك فيه B و تحتك A, C يبقى الـ combinations بتوعك هم تشوف مين الـ variables اللي بيطلعوا مع هتلاقي BA, BC اتهم S, A توقوح بحطهم.

عند ٢ هنجرب 1,2 او 2,1 فهيبقى قدامك BB او SA, SC

~~AC~~, CC, BB → B } ~~AA~~, ~~AS~~, ~~CA~~ ~~CS~~, ~~CA~~, CC AA, AC

~~BB~~, ~~SC~~, ~~AC~~, ~~B~~

في 4 نفس الكلام 1,3 او 2,2 او 3,1

~~AB~~ ~~CB~~ BA ~~BS~~ BC | BC, BA, BS, SB, AB. | 4,1, 3,2, 2,3, 1,4 هتبقى 5

N N

Any + NULL = NULL

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S → NP VP

NP → Det N

VP → V NP

V → includes

Det → a | the

N → meal | flight

the flight includes a meal

Det 1	NP 2	— 3	— 4	S 5
	N 1	— 2	— 3	— 4
		V 1	— 2	VP 3
			Det 1	NP 2
				N 1

Parsable ✓

3 = 1,2 | 2,1

NPV

4 | 1,3, 2 2, 3,1

5 | 1 4 2 3 3 2 4 1

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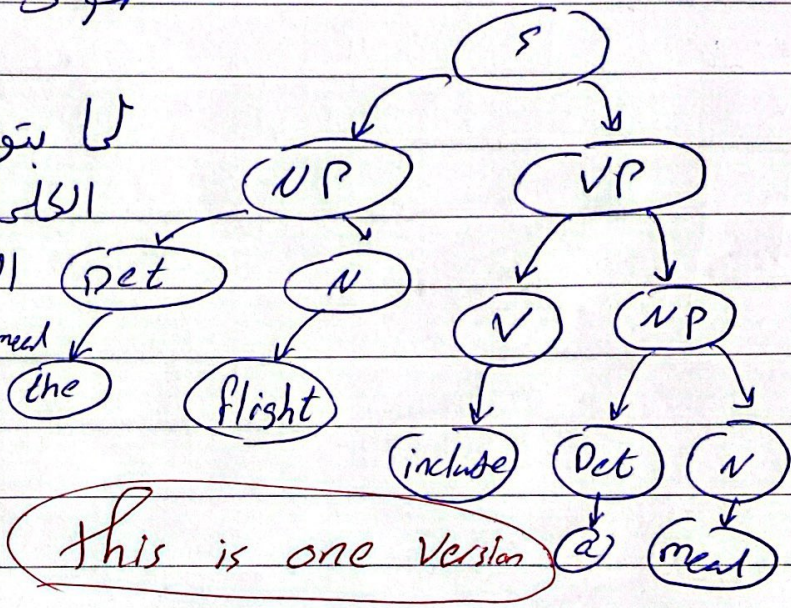
How to draw the parse Tree?

Our problem is getting any parse tree not the optimal parse Tree and this is much easier.

1. start from the root node.
2. دور على مين ال Nodes اللى بيطلعولك (S) ولكل واحدة
3. هتعمل one tree version . لكل node من اللى طلعتهم شوف مين اللى بيطلعوهم
4. لما بتوصل لـ leaf بتاخد الكلمة اللى حطتها على ال matrix

the flight includes a meal



Note:-

اشتغل بس على ال (S) اللى فى ال root وكل الحاجات اللى بتطلعلك (S) لكن اى حاجة تانية فكك منها عشان هى مش parse tree ← (top-down approach)

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