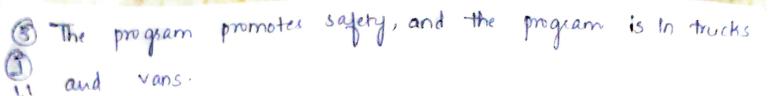
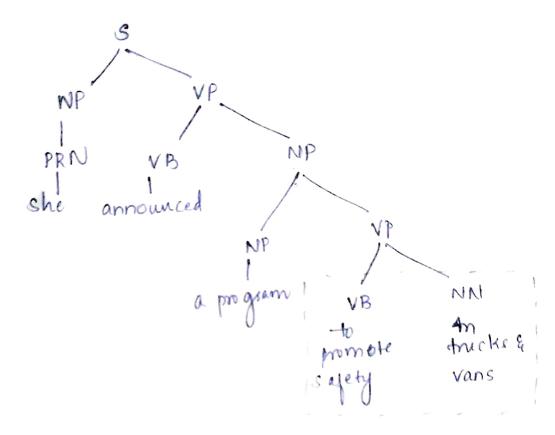
promotes Safety 10 trucks & also promotes 1.1. The program Vans. 1 ٧P NP NP PRN announced she VP MP NP VB 1 NN to promote MP and Vans.

The program promotes safety in trucks Elinvans. VP NP PRN NP she announced MP NP PNP In trucks & Vans

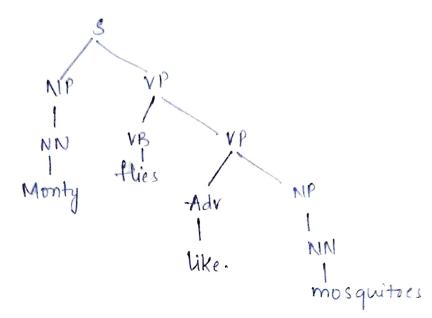




Precision & Recalle They thems are hunting Irons & tigers. is hunting Irons & Higers. O Some one MP MP lions & are hunting 1 They are hunting either lions or tigers or both possib possibly. VP MP NP PN VB NN They MP are hunting lions

1.2 Monty thes like mosquitoes.

(D) Monty thes in a manner similar to mosquitoes.



Monty flies (Insects) Similar to mosquitoes.

Plies from a placed called Monty.

NP VP

NN NN VB NP

Monty flies like NN

mosquitoes.

Precision & Recall. Predicted tree Gold Standard tree VPLANT INP PP DT the telescope NP IN with MM DT telecupe the Precision = no. of correctly predicted constituents Total mo. of predicted constituents. Recall = no. of correctly predicted constituents

total no. of correct constituents in gold standard. Gold Standard VP -> Vt NP vt -saw VP-> V+ NP NP - NP PP VI - saw NP - DT NN NP DF NN DT - the w DT - the NN =>dog-NN -> dog -PP - IN MP NN -> PP 2N - with PP - IN NP DP DT NN IN-with NP -> DT NN -DT - the DT - the NN -> telescope NN -> telescope

NIN

So, precision = 10 = no. of correctly predicted = 0.909 = 90.9%.

Since there are 10 rules, correctly predicted constituents

recall = no. of correctly predicted

recall = no. of correctly predicted

total no. of Standard tree

,

3.1 Only one passe tree is possible. MP VB MP MM Saw man MIP IN n DT NN the dug NN park

32 NP 1st parse tree NN DT NP the saw man MP INT ND PP NIP with DT nn the Log cat NN the park and pause tree NP ٧P MM DT NP man VB Saw PP NP NN NP dog the iw NP DP IN NP the pack with ON the cat

Two passe trees in total.

In first sentence, we had fine preposition after the Vest & In Second sentence, we had two prepositions after the Vest.

Second sentence, we had two prepositions after the Mesh, then it means so, If we have k prepositions after the Mesh, then it means there are kill nouns (one before preposition)

There are kill nouns (one before preposition)

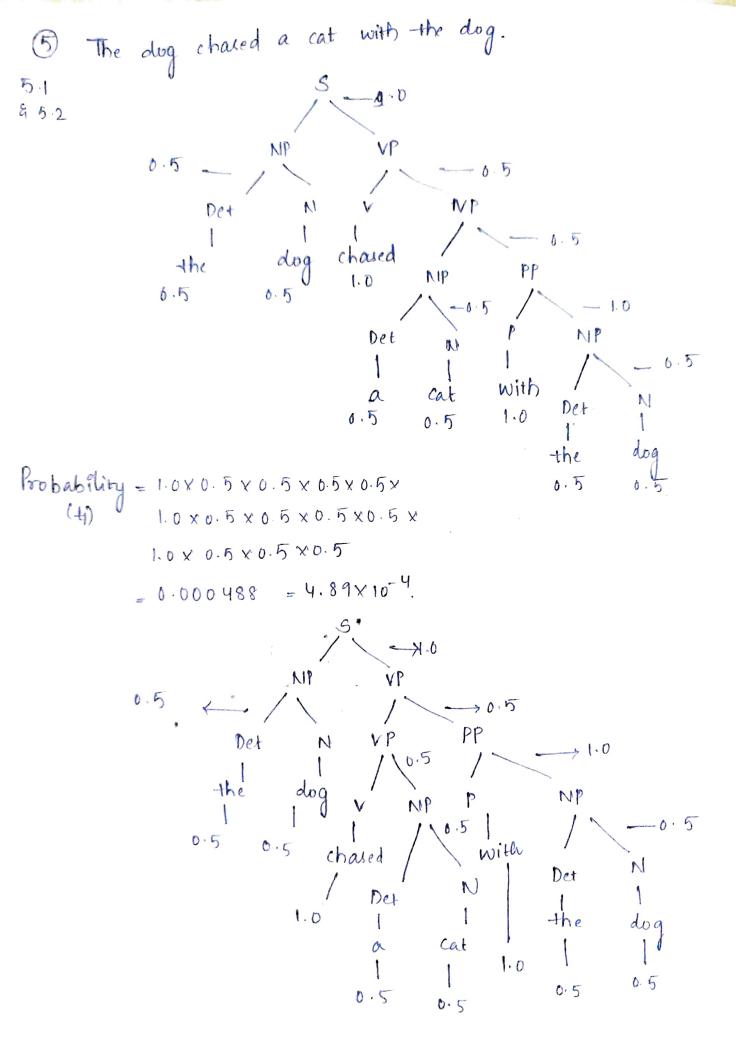
For each new preposition can be attached to any of the previous nouns. So, it can create k! combinations, but not all of them nouns. So, it can create k! combinations, but not all of them nouns. So, it can create k! combinations to stituency trees are valid, as they don't form proper constituency trees.

All valid combinations corresponds to the sno of valid bloady No eff valid combinations corresponds to the sno of valid bloady trees.

The kth catalan number Ch.

CK = (2K)! K!

So, tirst sentence when K=1,  $CK=\frac{2!}{2!1!}=1$ An second sentence when K=2,  $CK=\frac{4!}{3!2!}=2$ .



Probability  $(+a) = 1.0 \times 0.5 \times 0.5 \times 0.5 \times 0.5 \times 0.5 \times 1.0 \times 0.5 \times 0.5 \times 0.5 \times 0.5 \times 1.0 \times 0.5 \times 0.5$ 

5.3 Probability (+1) = Probability (+2)

80, both the trees are probable parse trees.

4 aabbb

Since,

	a	a	Ь	Ь	b	
	D C	В	•	40	•	
$c \rightarrow a$ $0 \rightarrow a$		0 0				
	$C \rightarrow D \rightarrow D$	a	B	•	۵	
	$B \rightarrow C$ $CC \checkmark$ $CD \times$	•	3 → b = → b	B.	o	
	$D \in X$		DEX DBX	B→b E→b	E B	
		C	CEX BX	EEX	B → b	
		E	b BEX BBX	BBX EBX BEX	EE X BBX EB X	
the cell	at the	top-nig	ht	f. 1 ×	BE X	
mpty &	doeint	start the s	with entence	can't be	, ×	

generated by thes grammas.

6 Root	J-shot and elephant - In my	-pagamas 3
Stack	buffer	-Action
	[], shot, an, elephant, in,	shift.
[Root]	my, pajamas, .)	Shift
[Rout, ]]	[shot, an, elephant, in, my,	3
(1001)	pagamas, . J	Shift.
[Root, J, Shot	J [an, elephant, in, my, pagamas, .]	
	oolamas 7	shift
[Root, ], shot	, and [elephant, in, my, pagamas,.]	
	elephant,	left-acc
[Root, ], shot	')	shift
[Root, I, Shot	-, elephant] [in, my, pajamas, .]	
to a make	, elephant, in [ my, pajamas, .]	shift
		left-alc
[Root, I, Shot	elephant, in, my] [pajamas, .]	right - ou c
	r	Ž.
(Root, I, Sho	, cique /	right - ac
[Root, I, sho	t, elephant ] [in, ·]	right - asc
[Root, ], S	hot ] [elephant, .]	right-arc
	Shot. 7	
[Root, ]]	[],.]	shift right-acc
[Root]		shift.
[ROOL, ]]	ræaa [.]	

[right-ac] [I] [Root]