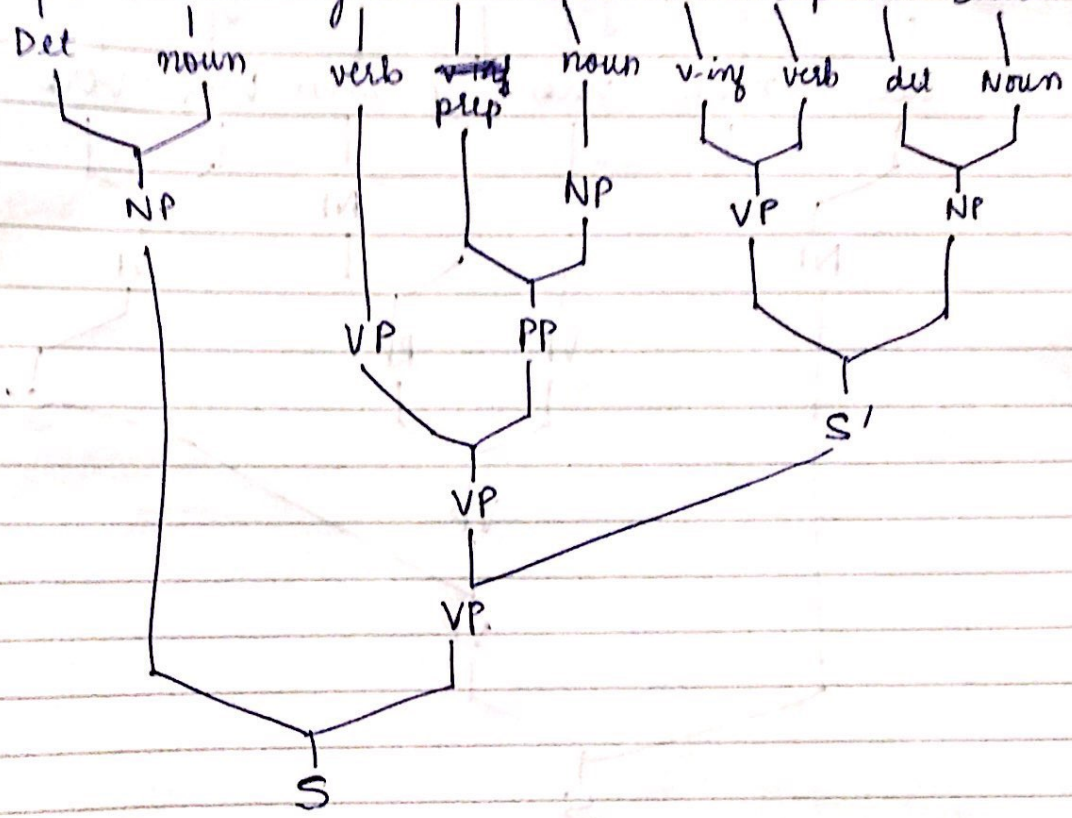
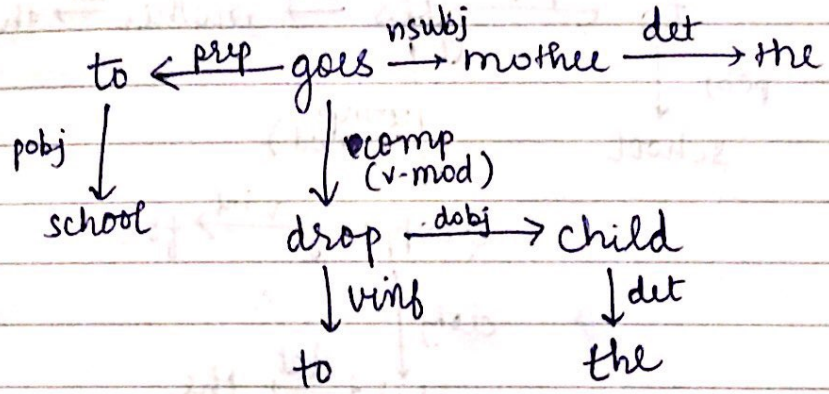
N.L.P. Assignment 2

① (i) (a) The mother goes to school to drop the child

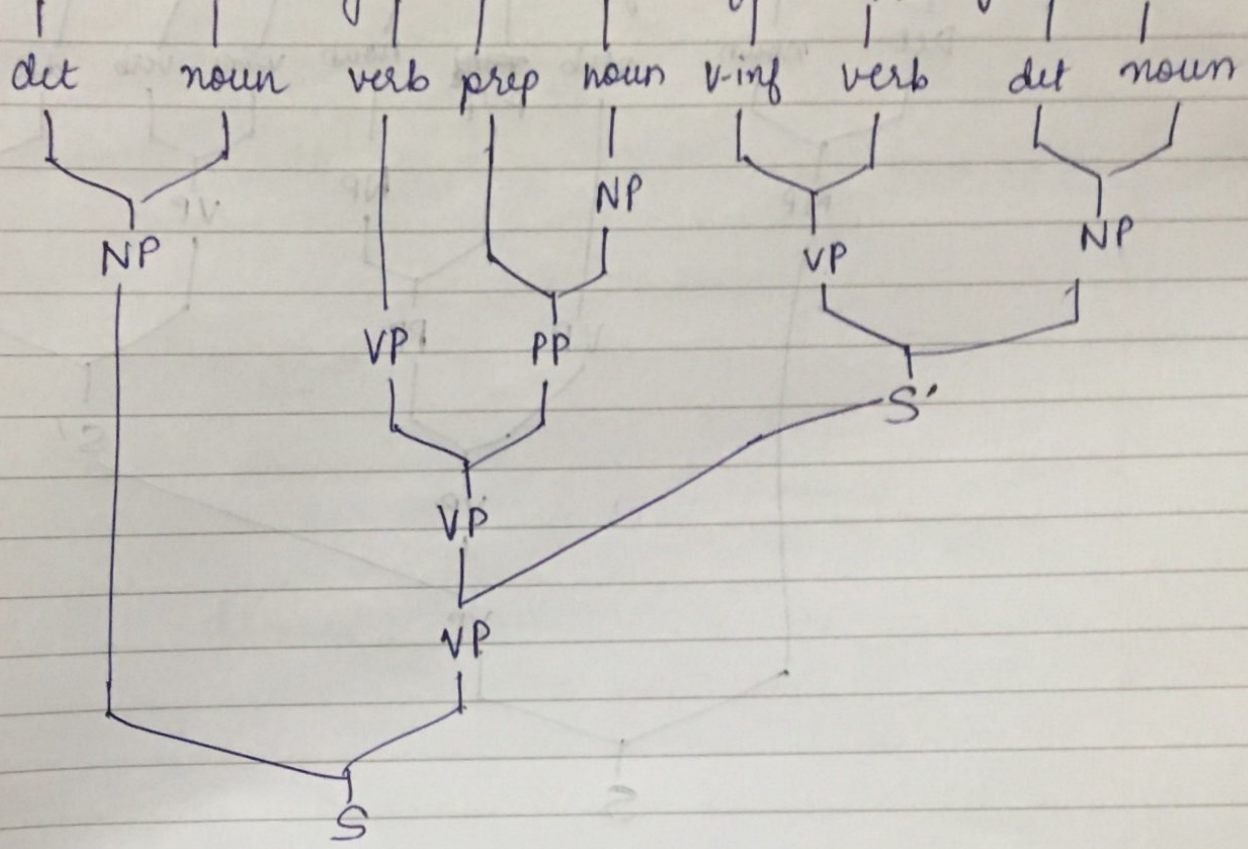


(b)

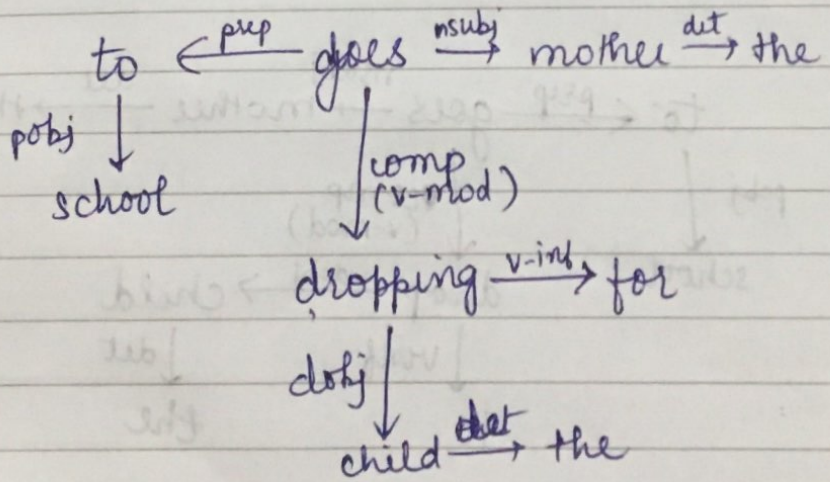


(a)

(ii) The mother goes to school for dropping the child

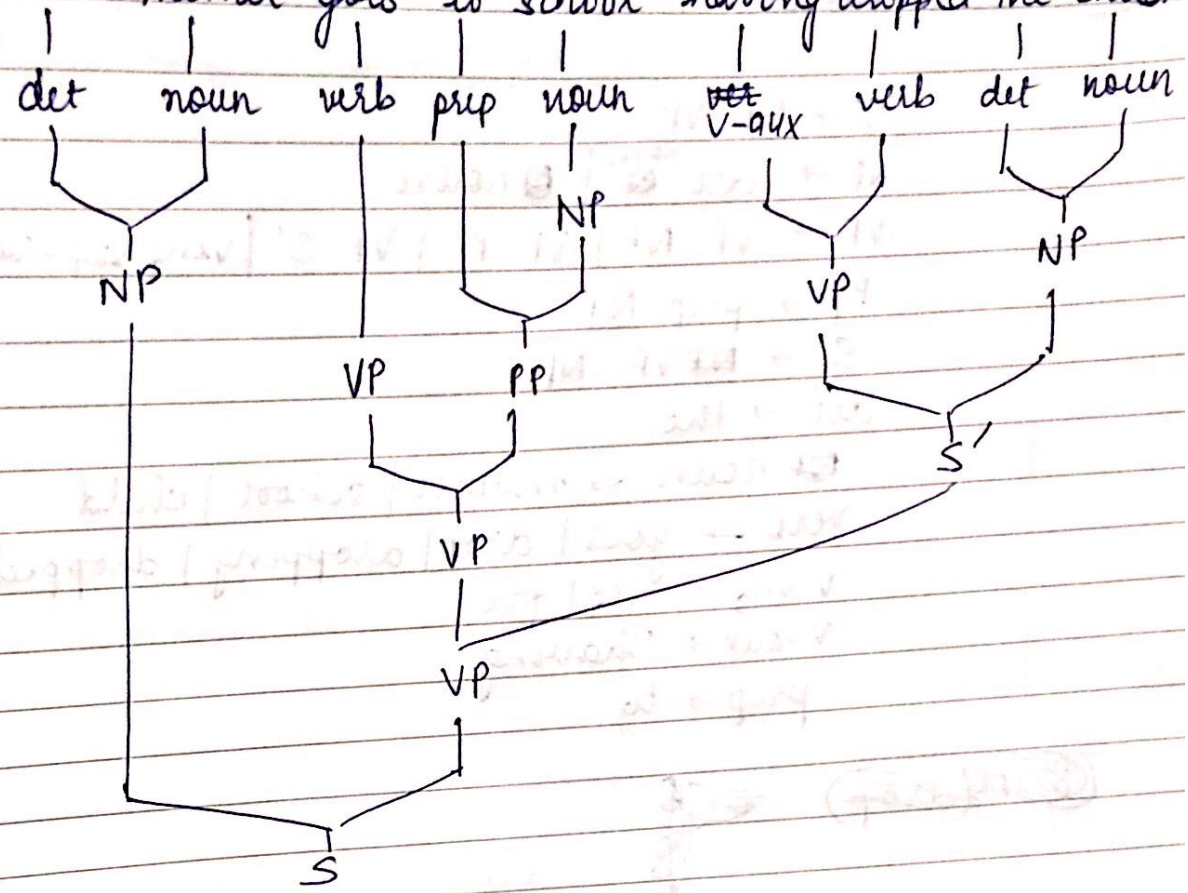


(b)

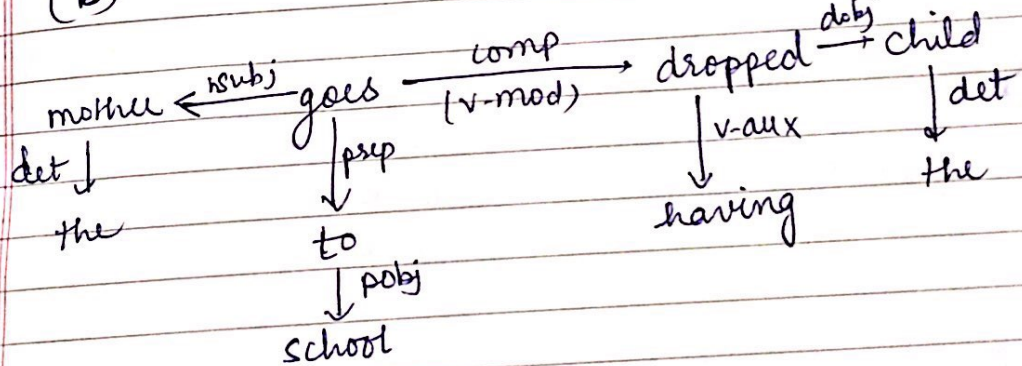


(iii) The mother goes to school having dropped the child

(a)



(b)



(2) CFG Rules:

S → NP VP
NP → det noun | noun
VP → VP NP | VP PP | VP S' | v-inf Verb | v-aux Verb | Verb
PP → prep NP
S' → VP NP
det → the
noun → mother | school | child
verb → goes | drop | dropping | dropped
v-inf → to | for
v-aux → having
prep → to

(3)

$$\text{drop}\begin{bmatrix}\text{cat} & \text{verb}\\ \text{agreement} & \begin{bmatrix}\text{tense} & \text{present}\\ \text{aspect} & \text{simple}\end{bmatrix}\end{bmatrix}$$

$$\text{dropping}\begin{bmatrix}\text{cat} & \text{verb}\\ \text{agreement} & \begin{bmatrix}\text{tense} & -\\ \text{aspect} & \text{continuous}\end{bmatrix}\end{bmatrix}$$

$$\text{dropped}\begin{bmatrix}\text{Cat} & \text{verb}\\ \text{agreement} & \begin{bmatrix}\text{tense} & \text{past}\\ \text{aspect} & -\end{bmatrix}\end{bmatrix}$$

Hence,

~~instead of~~ drop | dropping | dropped $\equiv$ drop$_{FS}$

So the rules

V → goes | drop | dropping | dropped $\equiv$

V → goes | drop$_{FS}$

mother go / mothers go / mother goes / mothers goes –

(4) goes [Cat verb
agreement [Person 3]
[Number sg]
[tense present]
[aspect simple]]

mother [Cat noun
agreement [Person 3]
[Number sg]
[gender female]]

~~Mother~~
mothers [Cat noun
agreement [Person 3]
[Number pl]
[gender female]]

go
(sp. in mothers(S) go)
3P

[cat verb
agreement [Person 3]
[Number pl]
[tense present]
[aspect simple]]

While unifying —

(a) mother and go

FS(mother).number ≠ FS(~~mother~~ go).number

— don't match!

(b) mother and goes

FS(mother).number = FS(goes).number
FS(mother).person = FS(goes).person

— match!
— Hence follows subject-verb agreement

(c) mothers and go

FS(mothers).number = FS(go).number
FS(mothers).person = FS(go).person

— match!
— Hence follows SVA

(d) mothers and goes

FS(mothers).number ≠ FS(~~moth~~ goes).number

— don't match!.