

Subject	Grammar Formalisms
Homework	3
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a)

She runs regularly in the park

Word	Cat
she	np
runs	s\ np
regularly	(s\ np)\ (s\ np)
in	((s\ np)\ (s\ np))/ np
the	np/ n
park	n

	$\frac{\text{runs}}{s \backslash np}$	$\frac{\text{regularly}}{(s \backslash np) \backslash (s \backslash np)}$	$\frac{\text{in}}{((s \backslash np) \backslash (s \backslash np)) / np}$	$\frac{\text{the}}{np / n}$	$\frac{\text{park}}{n}$	
		$(<)$		np	$(>)$	
$\frac{\text{she}}{np}$	$s \backslash np$		$((s \backslash np) \backslash (s \backslash np))$	$(<)$		
	s		$s \backslash np$	$(<)$		

b)

They named their son Stan and daughter Shelly

Word	Cat
they	np
named	((s\ np)/ np)/ np
their	np/ n
son	n
daughter	n
and	(X\ X)/ X

Word	Cat
Shelly	np
Stan	np

$$\begin{array}{c}
\frac{\frac{\text{they}}{\text{np}}}{s/(s\backslash np)} \quad \frac{\frac{\text{named}}{((s\backslash np)/np)/np}}{(s/np)/np} \quad \frac{\text{their son Stan and their daughter Shelly}}{s\backslash((s/np)/np)} \\
\text{(>T)} \quad \text{(>B2)} \quad \text{(<)} \\
\text{s}
\end{array}$$

$$\begin{array}{c}
\frac{\frac{\text{their son}}{\text{np}}}{(s/np)\backslash((s/np)/np)} \quad \frac{\frac{\text{Stan}}{\text{np}}}{s\backslash(s/np)} \\
\text{(>T)} \quad \text{(<B)} \\
s\backslash((s/np)/np)
\end{array}$$

$$\begin{array}{c}
\frac{\frac{\text{their daughter}}{\text{np}}}{(s/np)\backslash((s/np)/np)} \quad \frac{\frac{\text{Shelly}}{\text{np}}}{s\backslash(s/np)} \\
\text{(>T)} \quad \text{(<B)} \\
s\backslash((s/np)/np)
\end{array}$$

$$\begin{array}{c}
\frac{\text{their daughter Shelly}}{s\backslash((s/np)/np)} \quad \frac{\text{and}}{(X\backslash X)/X} \quad \frac{\text{their son Stan}}{s\backslash((s/np)/np)} \\
\text{(>T)} \quad \text{(<B)} \quad \text{(<B)} \\
s\backslash((s/np)/np)
\end{array}$$

$$\begin{array}{c}
\frac{\frac{\text{their}}{\text{np/n}}}{np} \quad \frac{\frac{\text{daughter}}{\text{n}}}{np} \\
\text{(>)} \\
np
\end{array}$$

$$\begin{array}{c}
\frac{\frac{\text{their}}{\text{np/n}}}{np} \quad \frac{\frac{\text{son}}{\text{n}}}{np} \\
\text{(>)} \\
np
\end{array}$$

c)

The wine that she bought gave me a headache

Word	Cat
The	np/n

Word	Cat
wine	n
that	(np\np)/(s\np)
she	np
bought	(s\np)/np
gave	((s\np)/np)/np
me	np
a	np/n
headache	n

			$\frac{\overline{\text{she}}}{\overline{\text{np}}}$		$\frac{\overline{\text{bought}}}{\overline{\text{(s\np)/np}}}$	
			$\frac{\overline{\text{np}}}{\text{s/(s\np)}}$	(T)		(>B)
		$\frac{\overline{\text{that}}}{\overline{\text{(n\np)/(s\np)}}}$		$\frac{\text{s/np}}{\text{n\np}}$	(>)	
$\frac{\overline{\text{The}}}{\overline{\text{np/n}}}$	$\frac{\overline{\text{wine}}}{\overline{\text{n}}}$			$\frac{\text{n\np}}{\text{n}}$	(<)	
	(>)		n			
			(>)			
			np			
			$\frac{\overline{\text{gave me a headache}}}{\overline{\text{s\np}}}$			
			$\frac{\overline{\text{s\np}}}{\text{s}}$	(<)		
		$\frac{\overline{\text{gave}}}{\overline{\text{((s\np)/np)/np}}}$	$\frac{\overline{\text{me}}}{\overline{\text{np}}}$	$\frac{\overline{\text{a}}}{\overline{\text{np/n}}}$	$\frac{\overline{\text{headache}}}{\overline{\text{n}}}$	
			(>)			(>)
		$\frac{\overline{\text{(s\np)/np}}}{\overline{\text{(s\np)/np}}}$		$\frac{\overline{\text{np}}}{\overline{\text{np}}}$		
				(>)		
			s\np			

d)

The angry referee should watch and analyse the video

Word	Cat
The	np/n
angry	n/n
referee	n
should	((s\np)/np)/((s\np)/np)
watch	(s\np)/np
and	((X\X)/X)

Word	Cat
analyse	(s\ np)/ np
the	np/ n
video	n

$\frac{\overline{\text{should}}}{((s\backslash np)/ np)/ ((s\backslash np)/ np)}$	$\frac{\overline{\text{watch}}}{(s\backslash np)/ np}$	$\frac{\overline{\text{and}}}{((X\backslash X)/ X)}$	$\frac{\overline{\text{analyse}}}{(s\backslash np)/ np}$	(andrule)
$\frac{((s\backslash np)/ np)/ ((s\backslash np)/ np)}{(s\backslash np)/ np}$				(>)

$\frac{\overline{\text{the}}}{np/ n}$	$\frac{\overline{\text{angry}}}{n/ n}$	$\frac{\overline{\text{referee}}}{n}$	(>)
$\frac{np}{np}$			(>)

$\frac{\overline{\text{the angry referee}}}{np}$	$\frac{\overline{\text{should watch and analyse}}}{(s\backslash np)/ np}$	$\frac{\overline{\text{the}}}{np/ n}$	$\frac{\overline{\text{video}}}{n}$	(>)
$\frac{(s\backslash np)/ np}{np}$				(>)
$\frac{s\backslash np}{s}$				(<)

2

Marshall persuaded Lily to forgive Barney

a)

Object control since persuade is an object control verb.

b)

	$\frac{\overline{\text{persuaded}}}{((s\backslash np)/(sto\backslash np))/np: \backslash o \text{ p s. persuaded}'(s, o, p(o))}$	$\frac{\overline{\text{Lily}}}{np: \text{lily}'}$	$(>)$	$\frac{\overline{\text{to forgive}}}{(sto\backslash np)/np: \backslash y \text{ x. forgive}'(x,y)}$	$\frac{\overline{\text{Barney}}}{np: \text{barney}'}$	$(>)$
$\frac{\overline{\text{Marshall}}}{np: \text{marshall}'}$	$\frac{(s\backslash np)/(sto\backslash np): \backslash p \text{ s. persuaded}'(s, \text{lily}', p(\text{lily}'))}{sto\backslash np: \backslash x. forgive'(x, \text{barney}')} (>)$					
$\frac{s\backslash np: \backslash s. persuaded'(s, \text{lily}', \text{forgive}'(\text{lily}', \text{barney}'))}{s: persuaded'(\text{marshall}', \text{lily}', \text{forgive}'(\text{lily}', \text{barney}'))} (<)$						