NLP Assignment

S → NP VP

S → XI VP

XI → Aux NP

S → book | include | prefer

S → verb NP

S → VP PP

NP → I / he / she / me

NP → Houston | NWA

NP → Det Nominal

Nominal → book | flight | meal | money

Nominal → Nominal Noun

Nominal → Nominal PP

VP → book | include | prefer

VP → verb NP

VP → VP PP

PP → Prep NP

Pronoun → I / he | she | me

Noun → book | flight | meal | money

Verb → book | include | prefer

Proper - Noun → Houston | NWA

(new rules)

Verb → book

Proper Noun → Houston

Det → The

Preposition → Through

Noun → Flight

CYK Algorithm

S,VP,verb nominal noun [0,1]	None [0,2]	VP,S [0,3]	None [0,4] None	S S VP VP [0,5]
	Det most [1,2]	NP [1,3]	[1,4] None	NP [1,5]
		Nominal Noun [2,3]	[2,4] Prep	Nominal [2,5] PP
			[3,4]	[3,5] NP Proper Noun
				[4,5]

2 parse trees possible

①
S
→ VP, PP
VP → Verb, NP
PP → Prep, NP
NP → Det, Nominal

②
S
→ Verb, NP
NP → Det, Nominal
Nominal → Nominal, PP
PP → Prep, NP