

Exercise 2 – Bottom up strategy

a) “Book that flight”

step	list of nodes	subsequence	rule
init	<i>book that flight</i>	<i>book</i>	noun → book
1	noun <i>that flight</i>	noun	NOM → noun
2	NOM <i>that flight</i>	<i>that</i>	det → that
3	NOM det <i>flight</i>	<i>flight</i>	noun → flight
4	NOM det noun	noun	NOM → noun
5	NOM det NOM	det NOM	NP → det NOM
6	NOM NP	NOM NP	nothing applicable – fail
7	<i>book that flight</i>	<i>book</i>	verb → book
8	verb <i>that flight</i>	verb	VP → verb
9	VP <i>that flight</i>	VP	S → VP – fail
10	verb <i>that flight</i>	<i>that</i>	det → <i>that</i>
11	verb det <i>flight</i>	<i>flight</i>	noun → <i>flight</i>
12	verb det noun	noun	NOM → noun
13	verb det NOM	det NOM	NP → det NOM
14	verb NP	verb NP	VP → verb NP
15	VP	VP	S → VP

b) “Does this flight include a meal?”

step	list of nodes	subsequence	rule
init	<i>does this flight include a meal</i>	<i>does</i>	Aux → does
1	Aux <i>this flight include a meal</i>	<i>does</i>	Aux → does
2	Aux <i>this flight include a meal</i>	<i>this</i>	det → this
3	Aux det <i>flight include a meal</i>	<i>flight</i>	noun → flight
4	Aux det noun <i>include a meal</i>	noun	NOM → noun
5	Aux det NOM <i>include a meal</i>	det NOM	NP → det NOM
6	Aux NP <i>include a meal</i>	<i>include</i>	verb → include
7	Aux NP verb <i>a meal</i>	verb	VP → verb
8	Aux NP VP <i>a meal</i>	Aux NP NP	S → Aux NP VP – fail
9	Aux NP verb <i>a meal</i>	<i>a</i>	det → a
10	Aux NP verb det <i>meal</i>	<i>meal</i>	noun → meal
11	Aux NP verb det noun	noun	NOM → noun
12	Aux NP verb det NOM	det NOM	NP → det NOM
13	Aux NP verb NP	verb NP	VP → verb NP
14	Aux NP VP	Aux NP VP	S