

d. (3 points) Give an ungrammatical sentence that this grammar now generates that was not generated previously.

I eat salsa green

e. (4 points) We need to make bigger changes to the grammar to make it work for both Spanish (*salsa verde*, *salsa roja*) and English (*green salsa*, *red salsa*). Rewrite more of the grammar (both pre-terminal productions and non-terminals) to split out NP-EN and NP-ES (English and Spanish noun phrases) to accept the English and Spanish examples correctly.

Add rules:

Non-terminal

(1,0) $NP-EN \rightarrow J-EN\ N$

(1,0) $NP-ES \rightarrow N\ J-ES$

Terminal

(0,5) $J-EN \rightarrow red$

(0,5) $J-EN \rightarrow green$

(0,5) $J-ES \rightarrow verde$

(0,5) $J-ES \rightarrow roja$

Non-terminal corrected

(0,5) $VP \rightarrow V\ NP-EN$

(0,5) $VP \rightarrow V\ NP-ES$

remove rules:

Non-terminal

$NP \rightarrow J-EN$

$VP \rightarrow V\ NP$

terminal

$J \rightarrow green$

$J \rightarrow red$

$J \rightarrow verde$

$J \rightarrow roja$