

# LSA 308 homework #1

Due: Friday 13 July, 2007

1. Write a context-free grammar for the sentence

Terry scrubbed the pots and pans and loaded the dishwasher,  
and Fong took out the garbage.

and determine the *depth* (in the sense of Yngve 1960) at each word in the sentence.

2. Given the probabilistic context-free grammar

1.0	S	→	NP VP .	0.5	NP	→	I
0.5	VP	→	V NP	0.3	NP	→	dogs
0.3	VP	→	V	0.2	NP	→	binoculars
0.2	VP	→	V NP PP	1.0	V	→	saw

what is the probability of the incremental tree (as used in Jurafsky 1996) covering the partial sentence

I saw dogs

?