NB: This is not a linguistically adequate grammar, even for the small fragment it covers. In order to keep the phrasal productions strictly binary branching, I have introduced several oddities. It should suffice, however, for the purposes of the assignment. Note that the probability mass for NP is spread over the phrasal and lexical productions. (That is, we don't have a strict class of 'pre-terminals'.)

Rules:

S → NP VP	[.80]
S → Aux S	[.20]
VP → V S	[.25]
VP → V NP	[.45]
VP → VP PP	[.30]
NP → Det N	[.40]
NP → NP PP	[.20]
PP → P NP	[.90]
PP → P S	[.10]

[Continued on next page]

Lexicon:

NP → Waikiki	[.10]
NP → Oslo	[.10]
NP → Kim	[.10]
NP → snow	[.10]
V → adores	[.70]
V → snores	[.30]
Aux → does	[.20]
Aux → can	[.25]
Aux → is	[.55]
P → in	[.20]
P → on	[.40]
P → before	[.40]
Det → this	[.20]
Det → these	[.20]
Det → the	[.60]

Assignment of non-terminals to numerical indices:

1	S
2	VP
3	NP
4	PP
5	Det
6	N
7	P
8	Aux