

Artificial Intelligence Problem Set 9

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Problem 1.

dogs $P(S0 \rightarrow S1) = 1$ implies that dogs must be a noun.

wag

1. wag is noun with probability 0.2: $P(S1 \rightarrow S2) = 0.1$

tail (a) tail is noun with probability 0.8: $P(S1 \rightarrow S2) = 0.1$

and is conjunction with probability 1: $P(S2 \rightarrow S3) = 0.2$

i. **bark** is noun with probability 0.2: $P(S3 \rightarrow S6) = 0.8$

ii. **bark** is verb with probability 0.8: $P(S3 \rightarrow S7) = 0.2$

(b) tail is verb with probability 0.2: $P(S1 \rightarrow S4) = 0.7$

and is conjunction with probability 1: $P(S4 \rightarrow S8) = 0.4$

i. **bark** is noun with probability 0.2: $P(S8 \rightarrow S6) = 0.4$

ii. **bark** is verb with probability 0.8: $P(S8 \rightarrow S7) = 0.6$

2. wag is verb with probability 0.8: $P(S1 \rightarrow S4) = 0.7$

tail (a) tail is noun with probability 0.8: $P(S4 \rightarrow S9) = 0.2$

and is conjunction with probability 1: $P(S9 \rightarrow S3) = 0.6$

i. **bark** is noun with probability 0.2: $P(S3 \rightarrow S6) = 0.8$

ii. **bark** is verb with probability 0.8: $P(S3 \rightarrow S7) = 0.2$

(b) Verb Verb STATE DOES NOT EXIST

1.

$P()$