Question 1

\[
g_1(x, h, m) = 1 \text{ if } x_h = \text{car} \text{ and } x_m = \text{the}
\]

\[
g_2(x, h, m) = 1 \text{ if } \text{POS}(h) = \text{NN} \text{ and } \text{POS}(m) = \text{DT}
\]

and \(\text{POS}(i) \neq \text{VB}\) for \(i \in \{(h + 1) \ldots (m - 1)\}\)

and \(i \in \{(m + 1) \ldots (h - 1)\}\)
Question 3

- $C(\text{the}) = 1$, $C(\text{dog}) = 2$
- $e(\text{the}|1) = e(\text{dog}|2) = 1$
- $q(1|2) = q(2|1) = 1$