

function FOL-FC-ASK(KB, α) **returns** a substitution or *false*

inputs: KB , the knowledge base, a set of first-order definite clauses

α , the query, an atomic sentence

while *true* **do**

$new \leftarrow \{\}$ *// The set of new sentences inferred on each iteration*

for each *rule* **in** KB **do**

$(p_1 \wedge \dots \wedge p_n \Rightarrow q) \leftarrow \text{STANDARDIZE-VARIABLES}(\text{rule})$

for each θ such that $\text{SUBST}(\theta, p_1 \wedge \dots \wedge p_n) = \text{SUBST}(\theta, p'_1 \wedge \dots \wedge p'_n)$
for some p'_1, \dots, p'_n in KB

$q' \leftarrow \text{SUBST}(\theta, q)$

if q' does not unify with some sentence already in KB or new **then**

add q' to new

$\phi \leftarrow \text{UNIFY}(q', \alpha)$

if ϕ is not *failure* **then return** ϕ

if $new = \{\}$ **then return** *false*

add new to KB