

UNIFICATION ALGORITHM

⇒ Step 1: If ψ_1 or ψ_2 is a variable or constant

a) If ψ_1 or ψ_2 are identical, return NIL

b) Else if ψ_2 is a variable,

a. then if ψ_2 occurs in ψ_1 , then
return failure

b. Else return $\{\psi_2/\psi_1\}$

c) Else if ψ_1 is a variable,

a) If ψ_2 occurs in ψ_1 then return
Failure.

b) Else return $\{\psi_1/\psi_2\}$

d) Else return Failure.

Step 2: If the initial Predicate symbol in
 ψ_1 & ψ_2 are not same, then return
failure.

Step 3: If ψ_1 & ψ_2 have a different
number of arguments,
return failure.

Step 4: Set Substitution set (SUBSET) to NIL

Step 5: For $i = 1$ to the number of elements

a) call unify function with the i th
element of ψ_1 & i th element of ψ_2

b) If $S = \text{failure}$ then return failure.

c) If $S \neq \text{NIL}$ then do.

a) Apply S to the remainder

b) SUBSET \rightarrow APPEND SUBSET

STEP: Return SUBSET.

Output:

('Eats', 'x', 'Mango')

('Eats', 'Sumit', 'y')

Substitutions: $\{x: \text{'Sumit'}, y: \text{'Mango'}\}$