22/11/24

Unification Algorithm

Algorithm : Unify (ψ_1, ψ_2)

step 1 : if ψ_1 or ψ_2 is variable or constant then :

if ψ_1 or ψ_2 are identical, then, return NIL.

else if ψ_1 is variable

then

if ψ_1 occurs in ψ_2 then return failure

else

return { (ψ_2 / ψ_1) }

else

else if ψ_2 is a variable :

if ψ_2 occurs in ψ_1 then

return failure

else

return { (ψ_1 / ψ_2) }

else :

return failure

Step 2 : if the initial predicate symbol in ψ_1 and ψ_2 are not same, then return failure

Step 3 : if ψ_1 and ψ_2 have different no. of arguments, then

return failure

Step 4: set substitution set (SUBST) to NIL

Step 5:

for i=1 to no. of element in ψ_1
call unify function with ith element of
ψ_1 & ith element of ψ_2 and
put the result to S
if S = failure ; return failure
else if S ≠ NIL then do
apply S to remainder of both
L1 and L2
SUBST = Append (S, SUBST)

return SUBST