Laboratory 7

UNIFICATION IN FIRST ORDER LOGIC

Step 1:
If ψ_1 or ψ_2 is a variable or constant, then:
(a) If ψ_1 or ψ_2 are identical, then return NIL
(b) Else if ψ_1 is a variable,
  a. then ψ_1 occurs in ψ_2, then return FAILURE
  b. Else return $\{(\psi_2 / \psi_1)\}$.
(c) Else if ψ_2 is a variable,
  a. If ψ_2 occurs in ψ_1 then return FAILURE
  b. Else return $\{\{\psi_2 / \psi_1\}\}$
(d) Else return FAILURE

Step 2: If the initial predicate symbol is ψ_1 & ψ_2 are not same, then return FAILURE

Step 3: If ψ_1 & ψ_2 have diff no. of args, then return FAILURE

Step 4: Set substitution set (SUBST) to NIL

Step 5: for i=1 to the no. of elts in ψ_1
  (a) Call unify func w/ elt of ψ_1 & ith element of ψ_2, and put result into S.
  (b) If S = failure then return failure
  (c) If S ≠ NIL Then do,
    a. Apply S to remainder of both L&L
    b. SUBST = APPEND (S, SUBST)

Step 6: : Return SUBST