

Algorithm Unification (Chang & Lee);
input non-empty set of expressions W ;
output $\sigma = \text{MGU}(W)$ or failure;
begin

1. $k := 0$; $W_0 := W$; $\sigma_0 := \{ \}$;
2. **if** W_k is singleton **then return** σ_k
else $D_k := \text{Disagreement_Set}(W_k)$;
3. **if** $(\exists \text{ var } v_k, \text{ term } t_k \text{ in } D_k)[v_k \text{ does not occur in } t_k]$
then begin
 $\sigma_{k+1} := \text{Compose}(\sigma_k, \{t_k/v_k\})$;
 $W_{k+1} := \text{Subst}(\{t_k/v_k\}, W_k)$;
NB: $W_{k+1} = \text{Subst}(\sigma_{k+1}, W)$
 $k := k + 1$;
goto 2
end
else return failure

end.