```
lang_union_wf  THM

⊢  ∀Alph:Type, M,N:LangOver(Alph). (M U N) ∈ LangOver(Alph)
| by UnivCD
|
1. Alph : Type
2. M : LangOver(Alph)
3. N : LangOver(Alph)
⊢  (M U N) ∈ LangOver(Alph)  by Unfold ‘lang_union‘ 0
|
⊢  (λl.M(l) ∨ N(l)) ∈ LangOver(Alph)  by Unfold ‘languages‘ 0
|
⊢  (λl.M(l) ∨ N(l)) ∈ Alph*→Prop  by Unfold ‘languages‘ 2
|
2. M : Alph*→Prop
3. N : LangOver(Alph)
⊢   by Unfold ‘languages‘ 3
|
3. N : Alph*→Prop
⊢   by Analyze
|
4. l : Alph*
⊢  (M(l) ∨ N(l)) ∈ Prop  by Auto
END
```