```
num_iso  THM

⊢  iso_pair(ℕ;ℕ;is_num_rep;rep_num;abs_num)
| by Unab [‘iso_pair‘;‘type_definition‘] THEN Simp THEN StrongAuto
|    THEN
|    Try (Complete (Unfold ‘hnum‘ 0))
|
|\
| 1. r : ℕ
| ⊢  abs_num(r) = (@a:ℕ. (r = rep_num(a)))
|   by Unab [‘habs_num‘] THEN Simp THEN StrongAuto
|      THEN
|      Unfold ‘hnum‘ 0
|
|\
| 1. x’ : ℕ
| 2. x’’ : ℕ
| 3. rep_num(x’) = rep_num(x’’)
| ⊢  x’ = x’’
| | by Assert (∀m,n:ℕ. m<n ⇒ rep_num(m) = rep_num(n) ⇒ m = n)
| |    THEN
| |    StrongAuto
| |    THEN
| |    Try (Complete (Unfold ‘label‘ 0))
| |    THEN
| |    Try (Complete (Unfold ‘hnum‘ 0))
| |
| |\
| | 1. x’ : ℕ
| | 2. x’’ : ℕ
| | 3. rep_num(x’) = rep_num(x’’)
| | 4. m : ℕ
| | 5. n : ℕ
| | 6. m<n
| | 7. rep_num(m) = rep_num(n)
| | ⊢  m = n
| | | by ((On [7;6;5] MoveToConcl) THEN (NInd 4)) THEN StrongAuto
| | |    THEN
| | |    Try (Complete (Unfold ‘label‘ 0))
| | |    THEN
| | |    HN
| | |
| | |\
| | | 1. x’ : ℕ
| | | 2. x’’ : ℕ
| | | 3. rep_num(x’) = rep_num(x’’)
| | | 4. n : ℕ
| | | 5. 0<n
| | | 6. rep_num(0) = rep_num(n)
| | | ⊢  0 = n  by Unab [‘hrep_num‘] THEN Simp THEN StrongAuto
| | | |
| | | 1. x’ : ℕ
| | | 2. x’’ : ℕ
| | | 3. ncompose(suc_rep;x’;zero_rep)
| | | |  =
```

```
| | | | |  ncompose(suc_rep;x'';zero_rep)
| | | 4. n : ℕ
| | | 5. 0<n
| | | 6. zero_rep = suc_rep(ncompose(suc_rep;n-1;zero_rep))
| | | ⊢  0 = n
| | | | by Thin 3 THEN Unab [‘hzero_rep‘] THEN Simp THEN StrongAuto
| | | |
| | | 1. ℕ
| | | 2. ℕ
| | | 3. n : ℕ
| | | 4. 0<n
| | | 5. (@x:ℕ. (∀y:ℕ. ¬x = suc_rep(y)))
| | | |  =
| | | |  suc_rep(ncompose(suc_rep;n-1;@x:ℕ. (∀y:ℕ. ¬x = suc_rep(y))))
| | | ⊢  0 = n
| | | | by MoveToConcl 5 THEN ChooseDC THEN Simp THEN StrongAuto
| | | |
| | | |\
| | | | 1. ℕ
| | | | 2. ℕ
| | | | 3. n : ℕ
| | | | 4. 0<n
| | | | 5. x : ℕ
| | | | 6. ∀y:ℕ. ¬x = suc_rep(y)
| | | | 7. x = suc_rep(ncompose(suc_rep;n-1;x))
| | | | ⊢  0 = n
| | | |   by DTerm ncompose(suc_rep;n-1;x) 6 THEN StrongAuto
| | | |      THEN
| | | |      Try (Complete (Unfold ‘label‘ 0))
| | | |
| | | .\
| | | . 1. ℕ
| | | . 2. ℕ
| | | . 3. n : ℕ
| | | . 4. 0<n
| | | . ⊢  ∃x:ℕ. ∀y:ℕ. ¬x = suc_rep(y)
| | | . | by Unab [‘hsuc_rep‘] THEN ChooseDC THEN StrongAuto
| | | . |    THEN
| | | . |    Try (Complete (Unfold ‘label‘ 0))
| | | . |    THEN
| | | . |    Try (Complete (Unfold ‘label‘ 0))
| | | . |
| | | . |\
| | | . | 1. ℕ
| | | . | 2. ℕ
| | | . | 3. n : ℕ
| | | . | 4. 0<n
| | | . | 5. f : ℕ→ℕ
| | | . | 6. one_one(ℕ;ℕ;f)
| | | . | 7. ¬onto(ℕ;ℕ;f)
| | | . | ⊢  ∃x:ℕ. ∀y:ℕ. ¬x = f(y)
| | | . |   by Unab [‘onto‘] THEN Simpset [‘not‘] THEN Simp
| | | . |      THEN
| | | . |      StrongAuto
| | | . |
```

```
| | | . .\
| | | . . 1. ℕ
| | | . . 2. ℕ
| | | . . 3. n : ℕ
| | | . . 4. 0<n
| | | . . ⊢  ∃f:(ℕ→ℕ). one_one(ℕ;ℕ;f) & ¬onto(ℕ;ℕ;f)
| | | . . | by (DTerm (λm:ℕ. m+1) 0)
| | | . . |    THEN
| | | . . |    (Unab [‘one_one‘;‘onto‘;‘not‘])
| | | . . |
| | | . . |\
| | | . . | .....wf .....
| | | . . | 1. ℕ
| | | . . | 2. ℕ
| | | . . | 3. n : ℕ
| | | . . | 4. 0<n
| | | . . | ⊢  (λm:ℕ. m+1) ∈ ℕ→ℕ  by Analyze
| | | . . |
| | | . . |\
| | | . . | 1. ℕ
| | | . . | 2. ℕ
| | | . . | 3. n : ℕ
| | | . . | 4. 0<n
| | | . . | ⊢  (∀x,y:ℕ. (λm:ℕ. m+1)(x) = (λm:ℕ. m+1)(y) ⇒ x = y)
| | | . . | |  & ((∀y:ℕ. ∃x:ℕ. y = (λm:ℕ. m+1)(x)) ⇒ False)  by Simp
| | | . . | |
| | | . . | 1. ℕ
| | | . . | 2. ℕ
| | | . . | 3. n : ℕ
| | | . . | 4. 0<n
| | | . . | 5. ∀y:ℕ. ∃x:ℕ. y = x+1
| | | . . | ⊢  False  by DTerm 0 -1
| | | . . | |
| | | . . | 1. ℕ
| | | . . | 2. ℕ
| | | . . | 3. n : ℕ
| | | . . | 4. 0<n
| | | . . | 5. ∃x:ℕ. 0 = x+1
| | | . . | ⊢  False  by Analyze 5
| | | . . |
| | | . . .\
| | | . . . .....wf .....
| | | . . . 1. ℕ
| | | . . . 2. ℕ
| | | . . . 3. n : ℕ
| | | . . . 4. 0<n
| | | . . . 5. f : ℕ→ℕ
| | | . . . ⊢  (one_one(ℕ;ℕ;f) & ¬onto(ℕ;ℕ;f)) ∈ Prop
| | | . . .   by ((DTerm 0 5) THEN (Analyze 5)) THEN StrongAuto
| | | . . .      THEN
| | | . . .      Try (Complete (Unfold ‘label‘ 0))
| | |
| | .\
| | . 1. x’ : ℕ
| | . 2. x’’ : ℕ
```

```
| | . 3. rep_num(x') = rep_num(x'')
| | . 4. m : ℤ
| | . 5. 0<m
| | . 6. ∀n:ℕ. m-1<n ⇒ rep_num(m-1) = rep_num(n) ⇒ m-1 = n
| | . 7. n : ℕ
| | . 8. m<n
| | . 9. rep_num(m) = rep_num(n)
| | . ⊢  m = n
| | . | by InstHyp [n-1] 6 THEN StrongAuto
| | . |    THEN
| | . |    Try (Complete (Unfold `label` 0))
| | . |
| | . .....antecedent .....
| | . 1. x' : ℕ
| | . 2. x'' : ℕ
| | . 3. rep_num(x') = rep_num(x'')
| | . 4. m : ℤ
| | . 5. 0<m
| | . 6. ∀n:ℕ. m-1<n ⇒ rep_num(m-1) = rep_num(n) ⇒ m-1 = n
| | . 7. n : ℕ
| | . 8. m<n
| | . 9. rep_num(m) = rep_num(n)
| | . ⊢  rep_num(m-1) = rep_num(n-1)
| | . | by Assert (0<n) THEN StrongAuto
| | . |    THEN
| | . |    Try (Complete (Unfold `label` 0))
| | . |    THEN
| | . |    Unab [`hrep_num`] THEN Simp
| | . |    THEN
| | . |    StrongAuto
| | . |    THEN
| | . |    Try (Complete (Unfold `label` 0))
| | . |    THEN
| | . |    Try (Complete (Unfold `label` 0))
| | . |
| | . 1. x' : ℕ
| | . 2. x'' : ℕ
| | . 3. ncompose(suc_rep;x';zero_rep)
| | . |  =
| | . |  ncompose(suc_rep;x'';zero_rep)
| | . 4. m : ℤ
| | . 5. 0<m
| | . 6. ∀n:ℕ.
| | . |  m-1<n
| | . |  ⇒
| | . |  ncompose(suc_rep;m-1;zero_rep)
| | . |  =
| | . |  suc_rep(ncompose(suc_rep;n-1;zero_rep))
| | . |  ⇒
| | . |  m-1 = n
| | . 7. n : ℕ
| | . 8. m<n
| | . 9. suc_rep(ncompose(suc_rep;m-1;zero_rep))
| | . |  =
| | . |  suc_rep(ncompose(suc_rep;n-1;zero_rep))
```

```
| | . 10. 0<n
| | . ⊢  ncompose(suc_rep;m-1;zero_rep)
| | . |  =
| | . |  ncompose(suc_rep;n-1;zero_rep)
| | . | by Assert one_one(ℕ;ℕ;suc_rep) THEN StrongAuto
| | . |    THEN
| | . |    Try (Complete (Unfold `label` 0))
| | . |
| | . |\
| | . | .....assertion .....
| | . | 1. x' : ℕ
| | . | 2. x'' : ℕ
| | . | 3. ncompose(suc_rep;x';zero_rep)
| | . | |  =
| | . | |  ncompose(suc_rep;x'';zero_rep)
| | . | 4. m : ℤ
| | . | 5. 0<m
| | . | 6. ∀n:ℕ.
| | . | |  m-1<n
| | . | |  ⇒
| | . | |  ncompose(suc_rep;m-1;zero_rep)
| | . | |  =
| | . | |  suc_rep(ncompose(suc_rep;n-1;zero_rep))
| | . | |  ⇒
| | . | |  m-1 = n
| | . | 7. n : ℕ
| | . | 8. m<n
| | . | 9. suc_rep(ncompose(suc_rep;m-1;zero_rep))
| | . | |  =
| | . | |  suc_rep(ncompose(suc_rep;n-1;zero_rep))
| | . | 10. 0<n
| | . | ⊢  one_one(ℕ;ℕ;suc_rep)
| | . | | by All Thin THEN Unab [`hsuc_rep`] THEN ChooseDC
| | . | |    THEN
| | . | |    StrongAuto
| | . | |    THEN
| | . | |    Try (Complete (Unfold `label` 0))
| | . | |    THEN
| | . | |    Try (Complete (Unfold `label` 0))
| | . | |
| | . | |\
| | . | | 1. f : ℕ→ℕ
| | . | | 2. one_one(ℕ;ℕ;f)
| | . | | 3. ¬onto(ℕ;ℕ;f)
| | . | | ⊢  one_one(ℕ;ℕ;λx:ℕ. f(x))
| | . | | | by Subst ((λx:ℕ. f(x)) = f) 0 THEN StrongAuto
| | . | | |    THEN
| | . | | |    Try (Complete (Unfold `label` 0))
| | . | | |
| | . | | .....equality .....
| | . | | 1. f : ℕ→ℕ
| | . | | 2. one_one(ℕ;ℕ;f)
| | . | | 3. ¬onto(ℕ;ℕ;f)
| | . | | ⊢  (λx:ℕ. f(x)) = f  by Ext THEN Simp THEN StrongAuto
| | . | |
```

```
| | . | .\
| | . | . ⊢  ∃f:(ℕ→ℕ). one_one(ℕ;ℕ;f) & ¬onto(ℕ;ℕ;f)
| | . | . | by ((DTerm (λm:ℕ. m+1) 0)
| | . | . |     THEN
| | . | . |     (Unab [‘one_one‘;‘onto‘;‘not‘]))
| | . | . |    THEN
| | . | . |    Simp
| | . | . |    THEN
| | . | . |    StrongAuto
| | . | . |
| | . | . 1. ∀y:ℕ. ∃x:ℕ. y = x+1
| | . | . ⊢  False
| | . | .   by ((DTerm 0 1) THEN (Analyze 1)) THEN StrongAuto
| | . | .      THEN
| | . | .      Try (Complete (Unfold ‘label‘ 0))
| | . |
| | . .\
| | . . 1. x’ : ℕ
| | . . 2. x’’ : ℕ
| | . . 3. ncompose(suc_rep;x’;zero_rep)
| | . .    =
| | . .    ncompose(suc_rep;x’’;zero_rep)
| | . . 4. m : ℤ
| | . . 5. 0<m
| | . . 6. ∀n:ℕ.
| | . .    m-1<n
| | . .    ⇒
| | . .    ncompose(suc_rep;m-1;zero_rep)
| | . .    =
| | . .    suc_rep(ncompose(suc_rep;n-1;zero_rep))
| | . .    ⇒
| | . .    m-1 = n
| | . . 7. n : ℕ
| | . . 8. m<n
| | . . 9. suc_rep(ncompose(suc_rep;m-1;zero_rep))
| | . .    =
| | . .    suc_rep(ncompose(suc_rep;n-1;zero_rep))
| | . . 10. 0<n
| | . . 11. one_one(ℕ;ℕ;suc_rep)
| | . . ⊢  ncompose(suc_rep;m-1;zero_rep)
| | . .    =
| | . .    ncompose(suc_rep;n-1;zero_rep)
| | . .   by Unab [‘one_one‘] THEN FwdThru 11 [9] THEN StrongAuto
| | . .      THEN
| | . .      Try (Complete (Unfold ‘label‘ 0))
| |
| .\
| . 1. x’ : ℕ
| . 2. x’’ : ℕ
| . 3. rep_num(x’) = rep_num(x’’)
| . 4. ∀m,n:ℕ. m<n ⇒ rep_num(m) = rep_num(n) ⇒ m = n
| . ⊢  x’ = x’’
| . | by Decide (x’<x’’) THEN StrongAuto
| . |    THEN
| . |    Try (Complete (Unfold ‘label‘ 0))
```

```
| . |
| . |\
| . | 1. x' : ℕ
| . | 2. x'' : ℕ
| . | 3. rep_num(x') = rep_num(x'')
| . | 4. ∀m,n:ℕ. m<n ⇒ rep_num(m) = rep_num(n) ⇒ m = n
| . | 5. x'<x''
| . | ⊢  x' = x''
| . |   by BackThru 4 THEN StrongAuto
| . |      THEN
| . |      Try (Complete (Unfold `label` 0))
| . |
| . .\
| . . 1. x' : ℕ
| . . 2. x'' : ℕ
| . . 3. rep_num(x') = rep_num(x'')
| . . 4. ∀m,n:ℕ. m<n ⇒ rep_num(m) = rep_num(n) ⇒ m = n
| . . 5. ¬x'<x''
| . . ⊢  x' = x''
| . . | by Decide (x'>x'') THEN StrongAuto
| . . |    THEN
| . . |    Try (Complete (Unfold `label` 0))
| . . |
| . . 1. x' : ℕ
| . . 2. x'' : ℕ
| . . 3. rep_num(x') = rep_num(x'')
| . . 4. ∀m,n:ℕ. m<n ⇒ rep_num(m) = rep_num(n) ⇒ m = n
| . . 5. ¬x'<x''
| . . 6. x'>x''
| . . ⊢  x' = x''
| . .   by SwapEquands 0 THEN BackThru 4 THEN StrongAuto
| . .      THEN
| . .      Try (Complete (Unfold `label` 0))
|
|\
| 1. x : ℕ
| 2. is_num_rep(x)
| ⊢  ∃x':ℕ. x = rep_num(x')
| | by Unab [`his_num_rep`] THEN Simp THEN StrongAuto
| |
| 1. x : ℕ
| 2. ∀P:(ℕ→𝔹). P(zero_rep) & (∀n:ℕ. P(n) ⇒ P(suc_rep(n))) ⇒ P(x)
| ⊢  ∃x':ℕ. x = rep_num(x')
| | by InstHyp [λx:ℕ. ↓b(∃x':ℕ. x = rep_num(x'))] 2 THEN Simp
| |    THEN
| |    StrongAuto
| |    THEN
| |    Try (Complete (Unfold `hnum` 0))
| |
| |\
| | 1. x : ℕ
| | 2. ∀P:(ℕ→𝔹). P(zero_rep) & (∀n:ℕ. P(n) ⇒ P(suc_rep(n))) ⇒ P(x)
| | ⊢  ∃x':ℕ. zero_rep = rep_num(x')
| |   by ((DTerm 0 0) THEN (Unab [`hrep_num`])) THEN Simp
| |      THEN
```

```
| |      StrongAuto
| |      THEN
| |      Try (Complete (Unfold `hnum` 0))
| |
| .\
| . 1. x : ℕ
| . 2. ∀P:(ℕ→𝔹). P(zero_rep) & (∀n:ℕ. P(n) ⇒ P(suc_rep(n))) ⇒ P(x)
| . 3. n : ℕ
| . 4. ∃x':ℕ. n = rep_num(x')
| . ⊢  ∃x':ℕ. suc_rep(n) = rep_num(x')
| . | by ((Analyze 4 THEN DTerm (x'+1) 0)
| . |     THEN
| . |     (UnfoldFirst `hrep_num` 0))
| . |    THEN
| . |    Simp
| . |    THEN
| . |    StrongAuto
| . |    THEN
| . |    Try (Complete (Unfold `hnum` 0))
| . |
| . 1. x : ℕ
| . 2. ∀P:(ℕ→𝔹). P(zero_rep) & (∀n:ℕ. P(n) ⇒ P(suc_rep(n))) ⇒ P(x)
| . 3. n : ℕ
| . 4. x' : ℕ
| . 5. n = rep_num(x')
| . ⊢  suc_rep(n) = ncompose(suc_rep;x'+1;zero_rep)
| . | by Assert (x'+1>0) THEN Simp THEN StrongAuto
| . |
| . 1. x : ℕ
| . 2. ∀P:(ℕ→𝔹). P(zero_rep) & (∀n:ℕ. P(n) ⇒ P(suc_rep(n))) ⇒ P(x)
| . 3. n : ℕ
| . 4. x' : ℕ
| . 5. n = rep_num(x')
| . 6. x'+1>0
| . ⊢  suc_rep(n) = suc_rep(ncompose(suc_rep;x'+1-1;zero_rep))
| . | by H 5 0 THEN StrongAuto THEN Try (Complete (Unfold `label` 0))
| . |
| . 1. x : ℕ
| . 2. ∀P:(ℕ→𝔹). P(zero_rep) & (∀n:ℕ. P(n) ⇒ P(suc_rep(n))) ⇒ P(x)
| . 3. n : ℕ
| . 4. x' : ℕ
| . 5. n = rep_num(x')
| . 6. x'+1>0
| . ⊢  suc_rep(rep_num(x'))
| .    =
| .    suc_rep(ncompose(suc_rep;x'+1-1;zero_rep))
| .   by ((Unab [`hrep_num`] THEN Simp) THEN (Repeat Analyze))
| .      THEN
| .      StrongAuto
| .      THEN
| .      Try (Complete (Unfold `label` 0))
|
.\
. 1. x : ℕ
. 2. ∃x':ℕ. x = rep_num(x')
```

```
. ⊢  is_num_rep(x)
. | by Assert (∀m:ℕ. is_num_rep(rep_num(m))) THEN Simp
. |    THEN
. |    StrongAuto
. |
. |\
. | 1. x : ℕ
. | 2. ∃x':ℕ. x = rep_num(x')
. | 3. m : ℕ
. | ⊢  is_num_rep(rep_num(m))  by NInd -1 THEN Simp THEN StrongAuto
. | |
. | |\
. | | .....basecase .....
. | | 1. x : ℕ
. | | 2. ∃x':ℕ. x = rep_num(x')
. | | ⊢  is_num_rep(rep_num(0))
. | |   by Thin 2 THEN Unab ['hrep_num'] THEN Simp THEN StrongAuto
. | |      THEN
. | |      Unab ['his_num_rep']
. | |      THEN
. | |      Simp
. | |      THEN
. | |      StrongAuto
. | |
. | .\
. | . .....upcase .....
. | . 1. x : ℕ
. | . 2. ∃x':ℕ. x = rep_num(x')
. | . 3. m : ℤ
. | . 4. 0<m
. | . 5. is_num_rep(rep_num(m-1))
. | . ⊢  is_num_rep(rep_num(m))
. | . | by Unab ['hrep_num'] THEN Simp THEN StrongAuto
. | . |
. | . 1. x : ℕ
. | . 2. ∃x':ℕ. x = ncompose(suc_rep;x';zero_rep)
. | . 3. m : ℤ
. | . 4. 0<m
. | . 5. is_num_rep(ncompose(suc_rep;m-1;zero_rep))
. | . ⊢  is_num_rep(suc_rep(ncompose(suc_rep;m-1;zero_rep)))
. | . | by Unab ['his_num_rep'] THEN Simp THEN StrongAuto
. | . |
. | . 1. x : ℕ
. | . 2. ∃x':ℕ. x = ncompose(suc_rep;x';zero_rep)
. | . 3. m : ℤ
. | . 4. 0<m
. | . 5. ∀P:(ℕ→𝔹).
. | . |  P(zero_rep) & (∀n:ℕ. P(n) ⇒ P(suc_rep(n)))
. | . |  ⇒
. | . |  P(ncompose(suc_rep;m-1;zero_rep))
. | . 6. P : ℕ→𝔹
. | . 7. P(zero_rep)
. | . 8. ∀n:ℕ. P(n) ⇒ P(suc_rep(n))
. | . ⊢  P(suc_rep(ncompose(suc_rep;m-1;zero_rep)))
. | . | by InstHyp [P] 5 THEN Simp THEN StrongAuto
```

```
. | . |
. | . |\
. | . | 1. x : ℕ
. | . | 2. ∃x':ℕ. x = ncompose(suc_rep;x';zero_rep)
. | . | 3. m : ℤ
. | . | 4. 0<m
. | . | 5. ∀P:(ℕ→𝔹).
. | . |      P(zero_rep) & (∀n:ℕ. P(n) ⇒ P(suc_rep(n)))
. | . |      ⇒
. | . |      P(ncompose(suc_rep;m-1;zero_rep))
. | . | 6. P : ℕ→𝔹
. | . | 7. P(zero_rep)
. | . | 8. ∀n:ℕ. P(n) ⇒ P(suc_rep(n))
. | . | 9. n : ℕ
. | . | 10. P(n)
. | . | ⊢  P(suc_rep(n))
. | . |   by HypBackchain THEN StrongAuto
. | . |      THEN
. | . |      Try (Complete (Unfold `label` 0))
. | . |
. | . .\
. | . . 1. x : ℕ
. | . . 2. ∃x':ℕ. x = ncompose(suc_rep;x';zero_rep)
. | . . 3. m : ℤ
. | . . 4. 0<m
. | . . 5. ∀P:(ℕ→𝔹).
. | . .      P(zero_rep) & (∀n:ℕ. P(n) ⇒ P(suc_rep(n)))
. | . .      ⇒
. | . .      P(ncompose(suc_rep;m-1;zero_rep))
. | . . 6. P : ℕ→𝔹
. | . . 7. P(zero_rep)
. | . . 8. ∀n:ℕ. P(n) ⇒ P(suc_rep(n))
. | . . 9. P(ncompose(suc_rep;m-1;zero_rep))
. | . . ⊢  P(suc_rep(ncompose(suc_rep;m-1;zero_rep)))
. | . .   by HypBackchain THEN StrongAuto
. | . .      THEN
. | . .      Try (Complete (Unfold `label` 0))
. |
. .\
. . 1. x : ℕ
. . 2. ∃x':ℕ. x = rep_num(x')
. . 3. ∀m:ℕ. is_num_rep(rep_num(m))
. . ⊢  is_num_rep(x)
. . | by Analyze 2 THEN StrongAuto
. . |    THEN
. . |    Try (Complete (Unfold `label` 0))
. . |
. . 1. x : ℕ
. . 2. x' : ℕ
. . 3. x = rep_num(x')
. . 4. ∀m:ℕ. is_num_rep(rep_num(m))
. . ⊢  is_num_rep(x)
. .   by ((H 3 0) THEN (BackThru 4)) THEN StrongAuto
. .      THEN
. .      Try (Complete (Unfold `label` 0))
```

```
END
```