```
connect_weakening  THM

⊢  For any graph
|  ∀x,y:V. x = y ⇒ x-the_graph->*y
| by Auto THEN (Unfold `connect` 0) THEN (InstConcl [[x]])
|    THEN
|    (Reduce 0)
|    THEN
|    (All (Unfold `path`))
|    THEN
|    (Reduce 0)
|
|\
| 1. the_graph : Graph
| 2. x : Vertices(the_graph)
| 3. y : Vertices(the_graph)
| 4. x = y
| ⊢  last([x]) = y  by Obvious
|
.\
. 1. the_graph : Graph
. 2. x : Vertices(the_graph)
. 3. y : Vertices(the_graph)
. 4. x = y
. 5. p : Vertices(the_graph) List
. 6. 0<||p||
. 7. ∀i:ℕ(||p||-1). p[i]-the_graph->p[(i+1)]
. ⊢  ¬null(p)  by Obvious
END
```