notEqualsContradiction

May 29, 2018

1 Proof of proveit.logic.equality.notEqualsContradiction theorem

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In [1]: from proveit._common_ import x, y

In [2]: %begin_proof notEqualsContradiction presuming [proveit.logic.boolean.negation.negationCo

Recorded 'presuming' information
Presuming proveit.logic.boolean.negation.negationContradiction theorem(s) (and any of their depe
Presuming previous theorems in this context (and any of their dependencies).
Beginning proof of


Out[2]: notEqualsContradiction: forall_{x, y | x = y , x != y} FALSE

In [3]: conditions = notEqualsContradiction.conditions

Out[3]: conditions: (x = y , x != y)

In [4]: x_neq_y = conditions[1]

Out[4]: x_neq_y: x != y

In [5]: not__x_eq_y = x_neq_y.unfold(assumptions=[x_neq_y])

Out[5]: not__x_eq_y: {x != y} |= [not](x = y)

In [6]: conclusion = not__x_eq_y.deriveContradiction(assumptions=conditions)

Out[6]: conclusion: {x = y , x != y} |= FALSE

In [7]: conclusion.generalize((x,y), conditions=conditions)

notEqualsContradiction has been proven.  Now simply execute "%qed".


Out[7]: |= forall_{x, y | x = y , x != y} FALSE

In [8]: %qed

Out[8]: <proveit._core_.proof.Generalization instance at 0x0000000008B60708>

In [ ]:
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