n , saying that `is_zero 0 = True` and `is_zero (succ n) = False` . Let's use these lemmas to prove `succ_ne_zero` , Peano's Last Axiom. Actually, we have been using `zero_ne_succ` before, but it's handy to have this opposite version too, which can be proved in the same way. Note: you can cheat here by using `zero_ne_succ` but the point of this world is to show you how to *prove* results like that.

Next

Objects:

a : ℕ

Assumptions:

h : `succ a = 0`

Goal:

`is_zero (succ a)`

`rw[h]` Retry

Active Goal

Objects:

a : ℕ

Assumptions:

h : `succ a = 0`

Goal:

`is_zero 0`

`rw[is_zero_zero]` Retry

Active Goal

Objects:

a : ℕ

Assumptions:

h : `succ a = 0`

Goal:

`True`

`trivial` Retry

`level completed!` 🎉

Tactics

apply
cases
contrapose
decide
exact
have
induction
intro
left
rfl
right
rw
simp
simp_add
symm
tauto
trivial
use

Definitions

*
^
\+
≠
≤
ℕ

Theorems

*
\+
012