Inference at $*$
of proof for Lemma eq_int_eq_false_intro:

$\vdash \forall i, j{:}\mathbb{Z}.\ (\neg(i = j)) \Rightarrow ((i =_0 j) \sim \text{ff})$
by (Auto_aux (first_nat 1:n) ((first_nat 1:n),(first_nat 3:n)) (first_tok :t) inil_term)

1:

1. $i : \mathbb{Z}$
2. $j : \mathbb{Z}$
3. $\neg(i = j)$

$\vdash (i =_0 j) = \text{ff}$

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