Inference at $*$
of proof for Lemma pos_mul_arg_bounds:

$\vdash \forall a, b{:}\mathbb{Z}.\ ((a * b) > 0) \iff (((a > 0)\ \&\ (b > 0)) \vee ((a < 0)\ \&\ (b < 0)))$
by ((GenRepD)
CollapseTHENA ((Auto_aux (first_nat 1:n) ((first_nat 1:n),(first_nat 3:n
)) (first_tok :t) inil_term)))·

1:

1. $a : \mathbb{Z}$
2. $b : \mathbb{Z}$
3. $(a * b) > 0$

$\vdash ((a > 0)\ \&\ (b > 0)) \vee ((a < 0)\ \&\ (b < 0))$

2:

1. $a : \mathbb{Z}$
2. $b : \mathbb{Z}$
3. $((a > 0)\ \&\ (b > 0)) \vee ((a < 0)\ \&\ (b < 0))$

$\vdash (a * b) > 0$

.

---

http://www.nuprl.org/FDLcontent/p0_942988_/p121_74180_{pos_mul_arg_bounds}.html