Inference at $*$
of proof for Lemma add_functionality_wrt_le:

$\vdash \forall i_1, i_2, j_1, j_2{:}\mathbb{Z}.\ (i_1 \le j_1) \Rightarrow (i_2 \le j_2) \Rightarrow ((i_1{+}i_2) \le (j_1{+}j_2))$
by (Auto_aux (first_nat 1:n) ((first_nat 1:n),(first_nat 3:n)) (first_tok :t) inil_term)

1:

1. $i_1 : \mathbb{Z}$
2. $i_2 : \mathbb{Z}$
3. $j_1 : \mathbb{Z}$
4. $j_2 : \mathbb{Z}$
5. $i_1 \le j_1$
6. $i_2 \le j_2$

$\vdash (i_1{+}i_2) \le (j_1{+}j_2)$

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http://www.nuprl.org/FDLcontent/p0_942988_/p121_77281_{add_functionality_wrt_le}.html