$$P_{s_0}(n) :\equiv \left(\forall a_i, b_i, c \in \{T, F\}\right)$$
$$CLANS_0\left(a_n, \ldots, a_0, b_n, \ldots, b_0, c\right) \iff CRAS\left(a_n, \ldots, a_0, b_n, \ldots, b_0, c\right)$$

THM: $(\forall n > 0) P_{s_0}(n)$

Proof: We prove $(\forall n > 0) P_{s_0}(n)$ by showing that $CLANS_0$ simplifies to exactly the definition of CRAS for all integers $n > 0$ and propositional variables $a_i, b_i,$ and c.

(1) $\quad CLANS_0(a_n \ldots a_0 \, b_n \ldots b_0 \, c)$ — Hypoth.

(2) $\quad CLAS_0(a_n \, b_n \, CLANCO(a_{n-1} \ldots a_0 \, b_{n-1} \ldots b_0 \, c))$ — By Def. 3.2

(3) $\quad CLAS_0(a_n \, b_n \, CRACO(a_{n-1} \ldots a_0 \, b_{n-1} \ldots b_0 \, c))$ — Lemma 3.4.

(4) $\quad S(a_n \, b_n \, CRACO(a_{n-1} \ldots a_0 \, b_{n-1} \ldots b_0 \, c))$ — Lemma 3.1

(5) $\quad CRAS(a_n \ldots a_0 \, b_n \ldots b_0 \, c)$ — By Def. 2.2