

Synthesized solution for benchmark 01assume.c

```

solution
├─ (Complete), cond  $a_5$ : count  $\leq 4$ 
│   └─ {
│       └─  $\begin{cases} \text{Case } a_5 : \\ k_1 = D_{17} \cdot (a_5 \cdot P_7 \cdot C_6) * \neg a_5 \\ k_2 = E_{18} \cdot 1 \cdot ((a_{11} \wedge b_{12}) \cdot P_{14} \cdot C_{13}) * \neg a_{11} \end{cases}$ 
│           └─ (Complete), cond  $b_{12}$ : number  $\geq 0$ 
│               └─ {
│                   └─  $\begin{cases} \text{Case } b_{12} : \\ k_1 = D_{17} \cdot 1 \cdot (a_5 \cdot I_{19} \cdot C_6) * \neg a_5 \\ k_2 = E_{18} \cdot 1 \cdot ((a_{11} \wedge b_{12}) \cdot P_{14} \cdot C_{13}) * \neg a_{11} \end{cases}$ 
│                       └─ AComplete
│                           └─ {
│                               └─  $\begin{cases} \text{Axioms} : \{D = 1, E = 1, I = 1, T = 1, U = 1\} \\ k_1 = D_{17} \cdot 1 \cdot (a_5 \cdot I_{19} \cdot U_{21}) * \neg a_5 \\ k_2 = E_{18} \cdot 1 \cdot 1 \cdot ((a_{11} \wedge b_{12}) \cdot T_{20} \cdot C_{13}) * \neg a_{11} \end{cases}$ 
│                                   └─ {
│                                       └─  $\begin{cases} \text{Case } \neg a_5 : \\ k_1 = D_{17} \cdot (a_5 \cdot P_7 \cdot C_6) * \neg a_5 \\ k_2 = E_{18} \cdot 1 \cdot ((a_{11} \wedge b_{12}) \cdot P_{14} \cdot C_{13}) * \neg a_{11} \end{cases}$ 
│                                           └─ AComplete
│                                               └─ {
│                                                   └─  $\begin{cases} \text{Axioms} : \{D = 1, E = 1\} \\ k_1 = D_{17} \cdot 1 \cdot (a_5 \cdot 0) * \neg a_5 \\ k_2 = E_{18} \cdot 1 \cdot ((a_{11} \wedge b_{12}) \cdot P_{14} \cdot C_{13}) * \neg a_{11} \end{cases}$ 

```

Remaining 42 solutions omitted for brevity.