

# Synthesized solution for benchmark 01assume.c

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solution
├── (Complete), cond  $a_5$ : count <= 4
│   ├── Case  $a_5$ :
│   │   ├──  $k_1 = D_{\text{count}} = \text{nondet}(); \cdot (a_5 \cdot P()) = \text{printf}(\text{count}); \cdot C_{\text{count}} = \text{count} + \_i, ? \ 1; ) * \neg a_5$ 
│   │   └──  $k_2 = E_{\text{count}} = \text{nondet}(); \cdot 1 \cdot ((a_{11} \wedge b_{12}) \cdot P()) = \text{printf}(\text{count}); \cdot C_{\text{count}} = \text{count} + \_i, ? \ 1; ) * \neg a_{11}$ 
│   └── (Complete), cond  $b_{12}$ : number >= 0
│       ├── Case  $b_{12}$ :
│       │   ├──  $k_1 = D_{\text{count}} = \text{nondet}(); \cdot 1 \cdot (a_5 \cdot I()) = \text{printf}(\text{count}); \cdot C_{\text{count}} = \text{count} + \_i, ? \ 1; ) * \neg a_5$ 
│       │   └──  $k_2 = E_{\text{count}} = \text{nondet}(); \cdot 1 \cdot ((a_{11} \wedge b_{12}) \cdot P()) = \text{printf}(\text{count}); \cdot C_{\text{count}} = \text{count} + \_i, ? \ 1; ) * \neg a_{11}$ 
│       └── AComplete
│           ├── Axioms : {  $D = 1, E = 1, I = 1, T = 1, U = 1$  }
│           ├──  $k_1 = D_{\text{count}} = \text{nondet}(); \cdot 1 \cdot (a_5 \cdot I()) = \text{printf}(\text{count}); \cdot U_{\text{count}} = \text{count} + \_i, ? \ 1; ) * \neg a_5$ 
│           └──  $k_2 = E_{\text{count}} = \text{nondet}(); \cdot 1 \cdot 1 \cdot ((a_{11} \wedge b_{12}) \cdot T()) = \text{printf}(\text{count}); \cdot C_{\text{count}} = \text{count} + \_i, ? \ 1; ) * \neg a_{11}$ 
└── Case  $\neg a_5$ :
    ├──  $k_1 = D_{\text{count}} = \text{nondet}(); \cdot (a_5 \cdot P()) = \text{printf}(\text{count}); \cdot C_{\text{count}} = \text{count} + \_i, ? \ 1; ) * \neg a_5$ 
    ├──  $k_2 = E_{\text{count}} = \text{nondet}(); \cdot 1 \cdot ((a_{11} \wedge b_{12}) \cdot P()) = \text{printf}(\text{count}); \cdot C_{\text{count}} = \text{count} + \_i, ? \ 1; ) * \neg a_{11}$ 
    └── AComplete
        ├── Axioms : {  $D = 1, E = 1$  }
        ├──  $k_1 = D_{\text{count}} = \text{nondet}(); \cdot 1 \cdot (a_5 \cdot 0) * \neg a_5$ 
        └──  $k_2 = E_{\text{count}} = \text{nondet}(); \cdot 1 \cdot ((a_{11} \wedge b_{12}) \cdot P()) = \text{printf}(\text{count}); \cdot C_{\text{count}} = \text{count} + \_i, ? \ 1; ) * \neg a_{11}$ 

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Remaining 42 solutions omitted for brevity.